Installation Materials and Accessories
for
Refrigeration and Air Conditioning

Refrigeration Quality Copper Tube

Copper tube supplied by HRP conforms, where relevant, to EN 12735-1.

Soft coiled copper tube is in the annealed (O) condition and straight lengths in half hard (1/2H) or fully hard (H) condition.

Refrigeration Quality Half Hard Straight Copper Tube

** New additions to the range suitable for use with sub-critical CO_2 applications at 50bar

OD Inches	Length metres	Gauge	Suitable For All HFCs	R410A	KME Code	Lawton Code
3/8	3	21	y	y	144509	143082
3/8	6	21	y	y	144517	143084
1/2	3	20	y	y	144525	143086
1/2	6	20	y	y	144533	143088
5/8	3	20	y	y	144541	143090
5/8	6	20	y	y	144568	143092
5/8 **	6	18	y	y	144570	143094
3/4	3	18	y	y	144576	143096
3/4	6	18	y	y	144584	143098
3/4 **	6	16	y	y	144586	143100
7/8	3	18	y	y	144592	143102
7/8	6	18	y	y	144606	143104
7/8 **	6	16	y	y	144600	143106
1-1/8	3	18	y		144614	143108
1-1/8	6	18	y		144622	143110
1-1/8	3	16	y	y	144624	143112
1-1/8	6	16	y	y	144626	143114
1-1/8 **	6	14	y	y	144628	143116

OD Inches	Length metres	Gauge	Suitable For All HFCs	R410A	KME Code	Lawton Code
1-3/8	3	18			144630	143118
1-3/8	6	18			144649	143120
1-3/8	3	16	y		144651	143122
1-3/8	6	16	y		144653	143124
1-3/8 **	6	12	y	y	144655	143126
1-5/8	3	18			144657	143128
1-5/8	6	18			144665	143130
1-5/8	3	16	y		144671	143132
1-5/8	6	16	y		144673	143134
1-5/8 **	6	11	y	y	144675	143136

LARGER STRAIGHT SIZES UP TO 4.1/8" ARE AVAILABLE

Refrigeration Quality Soft Coiled Copper Tube

OD Inches	Length metres	Gauge	Suitable For All HFCs	R410A	KME Code	Lawton Code
1/4	15	22	y	y	140074	143044
1/4	30	22	y	y	140082	143046
5/16	30	22	y	y	140139	143048
3/8	15	21	y	y	140155	143052
3/8	30	21	y	y	140163	143054
1/2	15	21	y	y	140198	143058
1/2	30	21	y	y	140201	143060

OD Inches	Length metres	Gauge	Suitable For All HFCs	R410A	KME Code	Lawton Code
5/8	15	20	y	y	140236	143064
5/8	30	20	y	y	140244	143066
3/4	15	19	y	y	140279	143070
3/4	30	19	y	y	140287	143072
7/8	15	19	y	y	140309	143076

Refrigerant	High-side	Low-side
R134a	13.09 Bar	7.20 Bar
R404A	24.80 Bar	14.09 Bar
R407C	23.70 Bar	13.30 Bar
R410A	33.50 Bar	18.99 Bar

In accordance with EN378:2000, the minimum value for the system allowable pressure for the various refrigerants used in air-cooled systems at a design ambient of 32°C, comprise:

High-side – Discharge, condenser and liquid lines.
Low-side – Expansion and suction lines.

Note: All refrigeration pipework for use in heat-pump/reverse-cycle systems must use the high pressure values.

Isoline Class 'O' Insulation

Isoline is a closed cell, water vapour resistant, thermal insulation for refrigeration, air conditioning and heating pipework. The standard supply colour is matt black and it is suitable for applications from -40°C to 116°C.

Isoline is fire resistant to Class 'O', and will not melt or drip even at high temperatures.

It is supplied in 2 metre lengths. Box quantities listed below refer to the number of lengths in a full box.

Wall Thickness	Tube OD	Box Qty	Part No	Code
1/4"	1/4"	248	6-6-2	188168
1/4"	5/16"	216	6-8-2	188174
1/4"	3/8"	182	6-10-2	188182
1/4"	1/2"	158	6-12-2	188190
1/4"	5/8"	133	6-15-2	188204
1/4"	3/4"	90	6-20-2	188212
1/4"	7/8"	90	6-22-2	188220
1/4"	1-1/8"	65	6-28-2	188239
3/8"	1/4"	176	9-6-2	188247
3/8"	3/8"	133	9-10-2	188255
3/8"	1/2"	117	9-12-2	188263
3/8"	5/8"	96	9-15-2	188271
3/8"	3/4"	68	9-20-2	188298
3/8"	7/8"	68	9-22-2	188301
3/8"	1.1/8"	49	9-28-2	188328
3/8"	1.3/8"	38	9-35-2	188336
3/8"	1.5/8"	30	9-42-2	188344
3/8"	2.1/8"	23	9-54-2	188352
1/2"	1/4"	100	13-6-2	188360
1/2"	3/8"	86	13-10-2	188379
1/2"	1/2"	81	13-12-2	188387
1/2"	5/8"	68	13-15-2	188395
1/2"	3/4"	49	13-20-2	188409
1/2"	7/8"	49	13-22-2	188417
1/2"	1.1/8"	39	13-28-2	188425
1/2"	1.3/8"	29	13-35-2	188433
1/2"	1.5/8"	24	13-42-2	188441
1/2"	2.1/8"	17	13-54-2	188468
1/2"	2.5/8"	13	13-67-2	188476
1/2"	3.1/8"	12	13-80-2	188484
1/2"	3.5/8"	12	13-92-2	188492
1/2"	4.1/8"	8	13-105-2	188506

ALSO AVAILABLE

Isoline Colour

Supplied in 2 metre lengths. Standard stock colour is black; other colours are available on special order. This is a finished insulation product which requires no painting. Isoline Colour offers a multi-layered finish directly onto the insulation during production and this offers the following advantages:

- UV Resistant
- Insulation finish
- Consistent paint finish
- Fast application
- No environmental impact
- Outdoor and indoor use
- Finish tested by BASF

Colour		RAL
Blue		5012
Green		6032
Grey		7035
White		9002
Red		3000

Wall Thickness	Tube OD	Box Qty	Part No	Code
3/4"	3/8"	49	19-10-2	188514
3/4"	1/2"	44	19-12-2	188522
3/4"	5/8"	39	19-15-2	188530
3/4"	3/4"	33	19-20-2	188549
3/4"	7/8"	42	19-22-2	188557
3/4"	1.1/8"	24	19-28-2	188565
3/4"	1.3/8"	18	19-35-2	188573
3/4"	1.5/8"	16	19-42-2	188581
3/4"	2.1/8"	12	19-54-2	188603
3/4"	2.5/8"	9	19-67-2	188611
3/4"	3.1/8"	7	19-80-2	188638
3/4"	3.5/8"	7	19-92-2	188646
3/4"	4.1/8"	6	19-105-2	188654
1"	1/2"	27	25-12-2	188662
1"	5/8"	26	25-15-2	188670
1"	3/4"	21	25-20-2	188689
1"	7/8"	21	25-22-2	188697
1"	1.1/8"	20	25-28-2	188700
1"	1.3/8"	12	25-35-2	188719
1"	1.5/8"	11	25-42-2	188727
1"	2.1/8"	8	25-54-2	188735
1"	2.5/8"	6	25-67-2	188743
1"	3.1/8"	4	25-80-2	188751
1"	3.5/8"	4	25-92-2	188778
1"	4.1/8"	3	25-105-2	188786

Isoline 15m Class 'O'

Isoline pipe insulation supplied in 15 metre lengths. Inside surface is talced for easy application to pipe.

Colour - matt black.

Wall Thickness	Tube OD	Box Qty	Length (m)	Description	Code
3/8"	1/4"	1	15	9-6-15m	188353
3/8"	3/8"	1	15	9-10-15m	188354
3/8"	1/2"	1	15	9-12-15m	188355
3/8"	5/8"	1	15	9-15-15m	188356
3/8"	3/4"	1	15	9-20-15m	188357
3/8"	7/8"	1	15	9-22-15m	188358
1/2"	1/4"	1	15	13-6-15m	188507
1/2"	3/8"	1	15	13-10-15m	188508
1/2"	1/2"	1	15	13-12-15m	188509
1/2"	5/8"	1	15	13-15-15m	188510
1/2"	3/4"	1	15	13-20-15m	188511
1/2"	7/8"	1	15	13-22-15m	188512

Isoline Paint

When applied at temperatures between 5°C and 30°C, this paint will dry to give a high quality protective film, with an attractive finish. It also has good weathering characteristics and will protect the insulation from UV radiation and ozone.

Description	Colour	Qty (Litres)	Code
Water-based	Black	1	188937
Water-based	Grey	1	188939

Isoline Tape – Self-Adhesive

A self adhesive foam backed tape, used in conjunction with the adhesive to maintain the integrity of insulation joints.

Description	Colour	Length (m)	Box Qty	Code
Class 'O'	Black	10	24	188867
Class 'O'	Black	30	12	184902

ORDER ONLINE

Isoline Sheet

Class 'O' standard sheet for insulating irregular shaped components susceptible to sweating such as accumulators, large pipework, supply air ducting etc. Sheet sizes are 2m x 0.5m.

Description	Thickness	Box Qty	Code
FS-6	1/4"	26	188816
FS-9	3/8"	16	188824
FS-13	1/2"	12	188832
FS-19	3/4"	8	188840
FS-25	1"	6	188859

Isoline Adhesive – Non-Flammable

Designed to bond sections of insulation together, compliments the fire rating of isoline. Contains a non-flammable solvent.

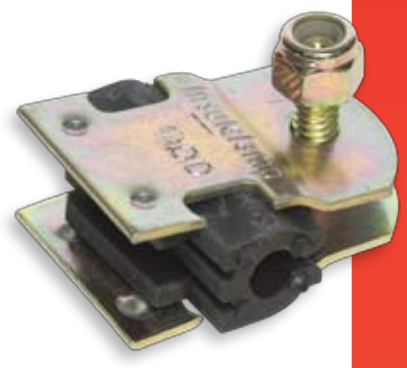
Description	Qty (Litres)	Box Qty	Code
Adhesive	0.25	24	188907
Adhesive	0.50	12	188909
Adhesive	1.00	12	188911

Insulclamp

The professional pipe support system insulates against heat loss and also reduces vibration. The thermoplastic inserts are colour passivated and will withstand temperatures between -30°C and 125°C. Insulclamps are supplied with a zinc plated finish and are available in 14 individual sizes. These clips are supplied individually.

Tube Diameter	Bag Quantity	Code
1/4"	10	292400
3/8"	10	292419
1/2"	10	292427
5/8"	10	292435
3/4"	10	292443
7/8"	10	292451
1-1/8"	10	292478

Tube Diameter	Bag Quantity	Code
1-3/8"	10	292486
1-5/8"	10	292494
2-1/8"	10	292508
2-5/8"	10	292516
3-1/8"	10	292524
3-5/8"	5	292532
4-1/8"	5	292540

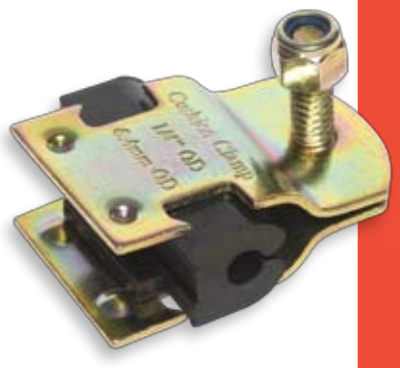


Cushion Clamps

These channel mounted clamping systems are ideal for multiple line runs, while absorbing shock and vibration, reducing unwanted noise and preventing galvanic corrosion. These clips are supplied in the bag quantities shown below.

Tube Diameter	Bag Quantity	Code
1/4"	10	292300
3/8"	10	292307
1/2"	10	292314
5/8"	10	292321
3/4"	10	292328
7/8"	10	292335
1-1/8"	10	292342

Tube Diameter	Bag Quantity	Code
1-3/8"	10	292349
1-5/8"	10	292356
2-1/8"	5	292363
2-5/8"	5	292370
3-1/8"	5	292377
3-5/8"	5	292384
4-1/8"	5	292391



Pipe Saddles for Copper Tube (single)

Tube Diameter	Part No	Code
1/8"	S1-2	294047
1/4"	S1-4	294055
3/8"	S1-6	294063
1/2"	S1-8	294071
5/8"	S1-10	294098
3/4"	S1-12	294101

Tube Diameter	Part No	Code
7/8"	S1-14	294128
1-1/8"	S1-18	294144
1-1/4"	S1-20	294152
1-3/8"	S1-22	294179
1-5/8"	S1-26	294187
2-1/8"	S1-34	294209

Pipe Saddles for Copper Tube (two)

Tube Diameter	Part No	Code
1/2" and 1/4"	SR1-84	294314
1/2" and 3/8"	SR1-86	294322
5/8" and 1/4"	SR1-104	294349
5/8" and 3/8"	SR1-106	294357

Tube Diameter	Part No	Code
5/8" and 1/2"	SR1-108	294365
3/4" and 1/2"	SR1-129	294381
3/4" and 5/8"	SR1-1210	294403

Squeezy Fit Clamps

By simply squeezing the tips together, the spring steel rod hanger can be fitted or adjusted in seconds. The spring steel hanger grips the rod tightly and the black zinc coating offers corrosion resistance.

Description	Part No	Code
3/8" and 5/8" Squeezy Fit Clamp	TRH-2	294501
1/2" and 7/8" Squeezy Fit Clamp	TRH-3	294503
5/8" and 1-1/8" Squeezy Fit Clamp	TRH-4	294505

Grip Locks

Designed to support liquid and gas pipes, including the insulation, with space for electrical cables and condensate tube.

Approx. Tube Diameter	Part No	Box Qty	Code
1/4" and 1/2"	Grip Lock 1	10	292542
3/8" and 5/8"	Grip Lock 2	10	292544
1/2" and 7/8"	Grip Lock 3	10	292546
5/8" and 1-1/8"	Grip Lock 4	10	292548

Pipe Hangers

Pipe hangers suitable for hanging from steel threaded rod. Sizes for single and twin runs of insulated pipe, with additional space for cables.

Approx. Tube Diameter	Part No	Box Qty	Code
3/8" x 5/8" Insulated	PNE-2	10	604379
1/2" x 7/8" Insulated	PNE-3	10	604380
5/8" x 1-1/8" Insulated	PNE-4	10	604381

Quick Positioning Clip

A one piece snap-shut clip which is very easy and quick to use. It simply twists into the channel allowing you to clip the pipe securely into position.

Tube Diameter	Bag Quantity	Code
1/4"	10	292709
3/8"	10	292710
1/2"	10	292711
5/8"	10	292712
3/4"	10	292713

Tube Diameter	Bag Quantity	Code
7/8"	10	292714
1-1/8"	10	292715
1-3/8"	10	292716
1-5/8"	10	292717

Studding Clips

A unique, one piece molded clip for use on studding.

Studding Diameter	Clip Diameter	Part No	Code
8mm	15mm	SC08-15	292720
8mm	20mm	SC08-20	292723
8mm	22mm	SC08-22	292726
8mm	25mm	SC08-25	292729
8mm	28mm	SC08-28	292727
8mm	32mm	SC08-32	292745
8mm	35mm	SC08-35	292753
8mm	40mm	SC08-40	292757
8mm	42mm	SC08-42	292761
8mm	50mm	SC08-50	292764
8mm	54mm	SC08-54	292768

Studding Diameter	Clip Diameter	Part No	Code
10mm	15mm	SC10-15	292772
10mm	20mm	SC10-20	292775
10mm	22mm	SC10-22	292779
10mm	25mm	SC10-25	292783
10mm	28mm	SC10-28	292788
10mm	32mm	SC10-32	292791
10mm	35mm	SC10-35	292796
10mm	40mm	SC10-40	292800
10mm	42mm	SC10-42	292804
10mm	50mm	SC10-50	292808
10mm	54mm	SC10-54	292812

All Round Band

The Patentband can be used as clips, clamps, brackets or ties. With screws, bolts or rivets, it can be fixed to or suspended from most surfaces. It is available with or without plastic covering in galvanised steel or copper.

The band is easily formed to adapt to any shape with no undue loss of strength or cracking of the plastic coating. Band sizes are 10m x 12mm wide.

Size	Part No	Code
10m	Copper	294411
10m	Galvanised	294438
10m	White plastic	294446
10m	Black plastic	294454

Nylon Cable Tie Mounts

These mounts are made from super-tough nylon which enables the fitting of pipes and/or cables to walls/ceilings etc.

Description	Pkt Qty	Plug Size mm	Cable Tie mm	Code
Screw-in black nylon wall plugs	100	8	8	CTB100B
Knock-in black nylon wall plugs	100	8	8	CTP100B
Knock-in black nylon wall plugs	100	6	3	EH1B6

Nylon Cable Ties

Nylon cable ties with excellent resistance to oils, greases and solvents. Temperature range -40°C to 80°C.

Description	Pkt Qty	Width mm	Length mm	Code
Black nylon cable ties	100	2.5	100	290807
Black nylon cable ties (Easyhold EH1B6)	100	2.5	200	290847
Black nylon cable ties	100	4.8	200	290815
Black nylon cable ties (Easyhold EH1B8)	100	4.8	300	290863
Black nylon cable ties	100	7.8	370	290823
Black nylon cable ties (releasable)	100	7.5	250	290904

Wall Anchor and Channel Clips

Polymer clips for supporting pipework, conduit and cables. They are easy to release and are designed to clamp around the pipework insulation, enabling a continuous vapour barrier. The wall anchor clip locates into a hole drilled into the wall/ceiling masonry, whereas the channel clip locates in 41 x 21 channel. The locking mechanism on the clip then locates around the pipe and insulation.

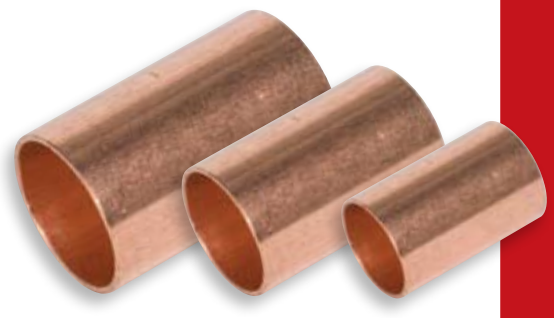
Description	Part No	Plug Size (mm)	Pkt Qty	Code
1/4" Wall Anchor Pipe Clip	TNC/10WA/006	10	10	292850
3/8" Wall Anchor Pipe Clip	TNC/10WA/006	10	10	292851
1/2" Wall Anchor Pipe Clip	TNC/10WA/008	10	10	292852
5/8" Wall Anchor Pipe Clip	TNC/10WA/010	10	10	292853
3/4" Wall Anchor Pipe Clip	TNC/10WA/020	10	10	292854
7/8" Wall Anchor Pipe Clip	TNC/10WA/030	10	10	292855
1" Wall Anchor Pipe Clip	TNC/10WA/040	10	10	292856
1-1/8" Wall Anchor Pipe Clip	TNC/10WA/050	10	10	292857
1-1/4" Wall Anchor Pipe Clip	TNC/10WA/060	10	10	292858
1-3/8" Wall Anchor Pipe Clip	TNC/10WA/070	10	10	292859
1-1/2" Wall Anchor Pipe Clip	TNC/10WA/080	10	10	292860
1-5/8" Wall Anchor Pipe Clip	TNC/10WA/090	10	10	292861
2" Wall Anchor Pipe Clip	TNC/10WA/100	10	10	292862
2-1/8" Wall Anchor Pipe Clip	TNC/10WA/110	10	10	292863

Description	Part No	Channel Size	Pkt Qty	Code
1/2" Channel Clip	TNC41CC008	41 x 21	10	292835
5/8" Channel Clip	TNC41CC010	41 x 21	10	292836
3/4" Channel Clip	TNC41CC020	41 x 21	10	292837
7/8" Channel Clip	TNC41CC030	41 x 21	10	292838
1" Channel Clip	TNC41CC040	41 x 21	10	292839
1 1/8" Channel Clip	TNC41CC050	41 x 21	10	292840
1 1/4" Channel Clip	TNC41CC060	41 x 21	10	292841
1 3/8" Channel Clip	TNC41CC070	41 x 21	10	292842
1 1/2" Channel Clip	TNC41CC080	41 x 21	10	292843
1 5/8" Channel Clip	TNC41CC090	41 x 21	10	292844
2" Channel Clip	TNC41CC100	41 x 21	10	292845
2 1/8" Channel Clip	TNC41CC110	41 x 21	10	292846

Straight Socket Equal Female/Female

Tube O.D.(")	Code
1/4	130001
3/8	130028
1/2	130036
5/8	130044
3/4	130052
7/8	130079
1-1/8	130087

Tube O.D.(")	Code
1-3/8	130095
1-5/8	130109
2-1/8	130117
2-5/8	130125
3-1/8	130133
3-5/8	130141
4-1/8	130168



Reducing Sockets Male/Female

Tube O.D.(")		Code
3/8	1/4	130702
1/2	1/4	130729
1/2	3/8	130737
5/8	3/8	130745
5/8	1/2	130753
3/4	1/2	130761
3/4	5/8	130788
7/8	3/8	130796
7/8	1/2	130818
7/8	5/8	130826
7/8	3/4	130834
1-1/8	1/2	130842
1-1/8	5/8	130869
1-1/8	3/4	130877
1-1/8	7/8	130885
1-3/8	5/8	130893
1-3/8	7/8	130907
1-3/8	1-1/8	130915

Tube O.D.(")		Code
1-5/8	5/8	130990
1-5/8	7/8	130850
1-5/8	1-1/8	130923
1-5/8	1-3/8	130931
2-1/8	7/8	131008
2-1/8	1-1/8	130958
2-1/8	1-3/8	130966
2-1/8	1-5/8	130974
2-5/8	1-3/8	131024
2-5/8	1-5/8	131016
2-5/8	2-1/8	130982
3-1/8	1-5/8	131059
3-1/8	2-1/8	131040
3-1/8	2-5/8	131032
3-5/8	3-1/8	131067
4-1/8	2-1/8	131091
4-1/8	2-5/8	131083
4-1/8	3-1/8	131075

Reducing Sockets Female/Female

Tube O.D.(")		Code
3/8	1/4	130257
1/2	3/8	130265
5/8	3/8	130273
5/8	1/2	130281
3/4	3/8	130303
3/4	1/2	130311
3/4	5/8	130338
7/8	1/2	130346
7/8	5/8	130354
7/8	3/4	130362
1-1/8	1/2	130389
1-1/8	5/8	130397
1-1/8	3/4	130419
1-1/8	7/8	130427
1-3/8	5/8	130443
1-3/8	3/4	130451
1-3/8	7/8	130478
1-3/8	1-1/8	130486

Tube O.D.(")		Code
1-5/8	5/8	130605
1-5/8	7/8	130591
1-5/8	1-1/8	130494
1-5/8	1-3/8	130508
2-1/8	5/8	130621
2-1/8	7/8	130613
2-1/8	1-1/8	130516
2-1/8	1-3/8	130524
2-1/8	1-5/8	130532
2-5/8	1-1/8	130559
2-5/8	1-3/8	130567
2-5/8	1-5/8	130575
2-5/8	2-1/8	130583
3-1/8	1-5/8	130664
3-1/8	2-1/8	130656
3-1/8	2-5/8	130648
4-1/8	2-1/8	130699
4-1/8	2-5/8	130680
4-1/8	3-1/8	130672

90° Copper L/R Elbows Female/Female

Tube O.D.(")	Code
1/4	131725
3/8	131733
1/2	131741
5/8	131768
3/4	131776
7/8	131784
1-1/8	131792
1-3/8	131806
1-5/8	131814
2-1/8	131822
2-5/8	131849
3-1/8	131857
3-5/8	131865
4-1/8	131873

90° Copper L/R Elbows Male/Female

Tube O.D.(")	Code
1/4	132004
3/8	132012
1/2	132039
5/8	132047
3/4	132055
7/8	132063
1-1/8	132071
1-3/8	132098
1-5/8	132101
2-1/8	132128
2-5/8	132136
3-1/8	132144
4-1/8	132152

90° Copper S/R Elbows Female/Female

Tube O.D.(")	Code
1/4	132268
3/8	132276
1/2	132284
5/8	132292
3/4	132306
7/8	132314
1-1/8	132322
1-3/8	132349
1-5/8	132357
2-1/8	132365
2-5/8	132373
3-1/8	132381
3-5/8	132403
4-1/8	132411

90° Copper S/R Elbows Male/Female

Tube O.D.(")	Code
1/2	134031
5/8	134058
7/8	134066
1-1/8	134074
1-3/8	134082
1-5/8	134090
2-1/8	134104
2-5/8	134112

90° Copper L/R Elbows Fitting/Fitting

Tube O.D.(")	Code
3/8	132977
1/2	132985
5/8	132993
7/8	133019
1	133027
1-1/8	133035
1-3/8	133043
1-5/8	133051
2-1/8	133078

45° Copper Bends Female/Female

Tube O.D.(")	Code
3/8	131539
1/2	131547
5/8	131555
3/4	131563
7/8	131571
1-1/8	131598
1-3/8	131601
1-5/8	131628
2-1/8	131636
2-5/8	131644
3-1/8	131652
3-5/8	131660
4-1/8	131679

45° Copper Bends Male/Female

Tube O.D.(")	Code
3/8	131881
1/2	131903
5/8	131911
7/8	131946
1-1/8	131954
1-3/8	131962
1-5/8	131970
2-1/8	131989
2-5/8	131991
3-1/8	131993
4-1/8	131997

Copper Tees Equal Female/Female/Female

Tube O.D.(")	Code
5/16	132521
1/4	132519
3/8	132527
1/2	132535
5/8	132543
3/4	132551
7/8	132578
1-1/8	132586
1-3/8	132594
1-5/8	132608
2-1/8	132616
2-5/8	132624
3-1/8	132632
3-5/8	132640
4-1/8	132659

Copper End Caps

Tube O.D.(")	Code
1/4	132667
3/8	132675
1/2	132683
5/8	132691
3/4	132705
7/8	132713
1-1/8	132721
1-3/8	132748
1-5/8	132756
2-1/8	132764
2-5/8	132772
3-1/8	132780
3-5/8	132799
4-1/8	132802

In addition to the copper fittings shown in this catalogue there is a full range of reducing copper tees, copper P traps and copper return bends available from all HRP Service Centres.

Stainless Steel Vibration Eliminators

These vibration eliminators are constructed of a deep pitch corrugated hose covered with a stainless steel braid. The hose and braid are reinforced by ferrules at each end and connected to copper tube ends by a high temperature braze alloy.

They can be installed in both the suction and discharge lines of air conditioning and refrigeration systems and are suitable for HCFC and HFC refrigerants, along with their associated oils.

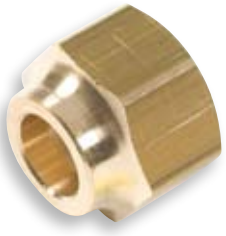
Part No.	Size (ODS)	Length (mm)	M.W.P (bar)	Code
V-1/4	1/4"	205	34.5	171750
V-3/8	3/8"	218	34.5	171752
V-1/2	1/2"	229	34.5	171754
V-5/8	5/8"	251	34.5	171756
V-3/4	3/4"	268	34.5	171758
V-7/8	7/8"	305	34.5	171760
V-1 1/8	1-1/8"	332	34.5	171762
V-1 3/8	1-3/8"	395	34.5	171764
V-1 5/8	1-5/8"	429	34.5	171766
V-2 1/8	2-1/8"	524	26.9	171768
V-2 5/8	2-5/8"	618	23.4	171770
V-3 1/8	3-1/8"	684	20.7	171772
V-3 5/8	3-5/8"	818	12.1	171774
VE-3 5/8CBCE	3-5/8"	686	22.8	171776
V-4 1/8	4-1/8"	837	12.1	171778
VE-4 1/8CBCE	4-1/8"	838	22.8	171779

Main Features

- Proven design
- Large Hose ID
- Stainless Steel hose and braid
- Stainless steel ferrules for superior strength
- Helium leak tested
- CE Marked
- UL listed (V models only)

NFS Flare Nuts - Short

Part No	Flare Size	Material A/F Size	Code
NFS-4	1/4"	3/4"	100234
NFS-6	3/8"	7/8"	100269
NFS-8	1/2"	1"	100277
NFS-10	5/8"	1-1/8"	100285
NFS-12	3/4"	1-3/8"	100293
NFS-14	7/8"	1-1/2"	100188



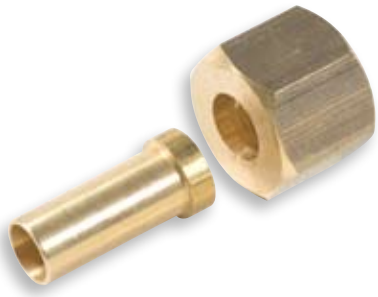
U1 - Male Flare To Male Pipe Unions NPT

Part No	Flare Size x NPT	Material A/F Size	Code
U1-4A	1/4" x 1/8"	7/16"	101427
U1-4B	1/4" x 1/4"	9/16"	101435

Flare to Solder Connectors

Supplied without copper gaskets.

Part No	Flare size x sweat	Code
9909200	1/4" x 1/4"	108200
9909255	3/8" x 1/4"	108219
9909211	3/8" x 3/8"	108227
9909222	1/2" x 1/2"	108235
9909233	5/8" x 5/8"	108243
9909244	3/4" x 3/4"	108251



G1 - Copper Flare Gaskets

Part No	Tube Size	Code
G1-4	1/4"	293938
G1-5	5/16"	293946
G1-6	3/8"	293954
G1-8	1/2"	293962
G1-10	5/8"	293989
G1-12	3/4"	293997
G1-14	7/8"	294004

U2 - Double End Male Flare Unions

Part No	Flare Size	Material A/F Size	Code
U2-3	3/16"	7/16"	100811
U2-4	1/4"	7/16"	100838
U2-5	5/16"	1/2"	100846
U2-6	3/8"	5/8"	100854
U2-8	1/2"	3/4"	100862
U2-10	5/8"	7/8"	100889
U2-12	3/4"	1-1/16"	100897
U2-14	7/8"	1-3/16"	100919

In addition to the sample range shown, a full and comprehensive range of brass fittings and Schrader access valves is available from all HRP Service Centres.

Access Fittings

This range of system access and line tap fittings make it possible to install either a permanent or temporary access point into the system.

Part No	Type	Pack Size	Code
VAU-24	1/4" M/flare x 1/8" MPT	6	167934
VAU-45	1/4" M/flare x 1/4" MPT	6	167936
VU-4	1/4" F/flare x 1/4" M/flare c/w schrader	6	167938
VAX-4B	1/4" M/flare x 1/4" Copper 50mm Ext.	1	167942
VAX-6	1/4" M/flare x 3/8" Copper 50mm Ext	3	165583
VAX-4B-6	1/4" M/flare x 1/4" Copper 150mm Ext.	1	167946
VA-46	1/4" M/flare x 1/4" or 3/8" Solder Union	6	167948
VTS-46	1/4" x 1/4" ODS x 1/4" M/flare Access Tee	3	167260
49996	3/8" x 3/8" ODS x 1/4" M/flare Access Tee	1	167298
49998	1/2" x 1/2" ODS x 1/4" M/flare Access Tee	1	167300
VVC-1	Schrader Cores	6	167950
MSA-44	1/4" NPT MALE x 1/4" FL/UNION	2	166902

Schrader Cores

VAU-24

VA-46

VAX-6

VTS-46

49998

VU-4

WEU Liquid Line Driers

Following a period of extensive research work and the introduction of new refrigerants, the WEU range of liquid line driers has been introduced.

The WEU series has a desiccant mix of 100% MS594 molecular sieve for even greater moisture retention.

The new higher pressure refrigerants, such as R410A, demand a high pressure rating for the line components which has resulted in a thicker new WEU series. The entire range has a shell rating of 45 bar.

* Moisture capacity based on a 15% moisture take up at 24°C

Model No	Conn Size	* R404 H_2O gr	Code
WEU 032F	1/4" fl	3.60	275180
WEU 052F	1/4" fl	6.00	275182
WEU 053F	3/8" fl	6.00	275184
WEU 082F	1/4" fl	14.70	275186
WEU 083F	3/8" fl	14.70	275188
WEU 084F	1/2" fl	14.70	275190
WEU 162F	1/4" fl	19.35	275192
WEU 163F	3/8" fl	19.35	275194
WEU 164F	1/2" fl	19.35	275196
WEU 165F	5/8" fl	19.35	275198
WEU 303F	3/8" fl	35.25	275200
WEU 304F	1/2" fl	35.25	275202
WEU 305F	5/8" fl	35.25	275204
WEU 414F	1/2" fl	58.50	275206
WEU 415F	5/8" fl	58.50	275208
WEU 032S	1/4" sw	3.60	275210
WEU 052S	1/4" sw	6.00	275212
WEU 053S	3/8" sw	6.00	275214

Model No	Conn Size	* R404 H_2O gr	Code
WEU 082S	1/4" sw	14.70	275216
WEU 083S	3/8" sw	14.70	275218
WEU 084S	1/2" sw	14.70	275220
WEU 162S	1/4" sw	19.35	275222
WEU 163S	3/8" sw	19.35	275224
WEU 164S	1/2" sw	19.35	275226
WEU 165S	5/8" sw	19.35	275228
WEU 303S	3/8" sw	35.25	275230
WEU 304S	1/2" sw	35.25	275232
WEU 305S	5/8" sw	35.25	275234
WEU 307S	7/8" sw	35.25	275236
WEU 414S	1/2" sw	58.50	275238
WEU 415S	5/8" sw	58.50	275240
WEU 417S	7/8" sw	58.50	275242
WEU 754S	1/2" sw	102.00	275244
WEU 756S	3/4" sw	102.00	275246
WEU 757S	7/8" sw	102.00	275248
WEU 759S	1-1/8" sw	102.00	275250

Replaceable Filter Core Driers

Also available from all HRP Service Centres is a complete range of replaceable filter core driers and suction line filters.

The VS Line driers consist of an extensive range of models in two shell diameters, with capacities of up to 211kW. They are suitable for use in either the liquid or suction line with a variety of cores available to suit the required application. As an option, the top flange can be supplied with a 1/4" NPT plug to enable pressure connections to be made.

ADK Plus Liquid Line Filter Driers

For liquid line application. These high quality steel shell sealed filter driers from Alco utilise a solid core giving maximum water retention, filtration and acid removal.

Model No	Conn Size	* R22 flow cap kW	Code
ADK 032	1/4" fl	10.6	210005
ADK 052	1/4" fl	11.0	210021
ADK 053	3/8" fl	21.3	210056
ADK 082	1/4" fl	11.3	210072
ADK 083	3/8" fl	23.9	210099
ADK 084	1/2" fl	39.1	210110
ADK 162	1/4" fl	11.5	210137
ADK 163	3/8" fl	24.1	210145
ADK 164	1/2" fl	47.1	210161
ADK 165	5/8" fl	66.5	210196
ADK 303	3/8" fl	25.4	210226
ADK 304	1/2" fl	47.1	210234
ADK 305	5/8" fl	72.1	210250
ADK 414	1/2" fl	55.2	210285
ADK 415	5/8" fl	87.9	210307
ADK 032S	1/4" sw	12.9	210013

Model No	Conn Size	* R22 flow cap kW	Code
ADK 052S	1/4" sw	17.1	210048
ADK 053S	3/8" sw	24.1	210064
ADK 082S	1/4" sw	17.3	210080
ADK 083S	3/8" sw	24.1	210102
ADK 084S	1/2" sw	40.4	210129
ADK 163S	3/8" sw	26.8	210153
ADK 164S	1/2" sw	49.9	210188
ADK 165S	5/8" sw	72.4	210218
ADK 304S	1/2" sw	51.6	210242
ADK 305S	5/8" sw	72.9	210269
ADK 307S	7/8" sw	104.6	210277
ADK 415S	5/8" sw	94.5	210315
ADK 417S	7/8" sw	116.9	210323
ADK 757S	7/8" sw	158.3	210331
ADK 759S	1-1/8" sw	175.8	210358

BFK Bi-Directional Filter Driers

For liquid where the flow may be reversed. All models are fully compatible for use with CFCs, HCFCs, and HFCs, along with their associated lubricants when used within their operating pressure ranges.

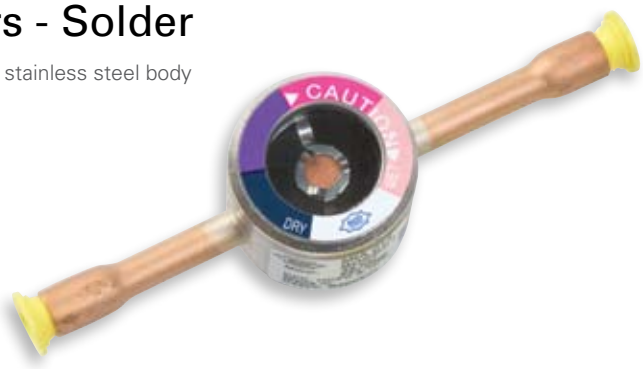
Model No	Conn Size	* R22 flow cap kW	Code
BFK 083	3/8" fl	22.5	210366
BFK 084	1/2" fl	32.0	210382
BFK 163	3/8" fl	22.9	210420
BFK 164	1/2" fl	38.3	210447
BFK 165	5/8" fl	41.5	210463

Model No	Conn Size	* R22 flow cap kW	Code
BFK 083S	3/8" sw	25.3	210374
BFK 084S	1/2" sw	33.4	210390
BFK 163S	3/8" sw	26.0	210439
BFK 164S	1/2" sw	40.4	210455
BFK 165S	5/8" sw	43.3	210471

Alco MIA Moisture Liquid Indicators - Solder

Fully hermetic, crystal moisture indicator with four colours, corrosion free stainless steel body ODF extended tube suitable for all refrigerants inc. R410A.

Part No	Size	RAL
MIA-014	1/4" sw	219012
MIA-038	3/8" sw	219014
MIA-012	1/2" sw	219016
MIA-058	5/8" sw	219018
MIA-078	7/8" sw	219020



Danfoss Moisture Indicator Sight Glasses

Danfoss new SG+ sight glasses are stainless steel, laser welded construction 45 Bar MWP.

Danfoss SGI+

For use with CFC and HCFC refrigerants inc. R410A.

Male Flare

Part No	Danfoss Code No	Size	Code
SGI+ 6	014F0007	1/4" fl m/m	302506
SGI+ 10	014F0008	3/8" fl m/m	302508
SGI+ 12	014F0009	1/2" fl m/m	302510
SGI+ 15	014F0024	5/8" fl m/m	302516
SGI+ 19	014F0028	3/4" fl m/m	302522

Male Flare to Female Flare

Part No	Danfoss Code No	Size	Code
SGI+ 6	014F0021	1/4" fl m/f	302512
SGI+ 10	014F0022	3/8" fl m/f	302514
SGI+ 12	014F0025	1/2" fl m/f	302518
SGI+ 15	014F0026	5/8" fl m/f	302520
SGI+ 19	014F0043	3/4" fl m/f	302544

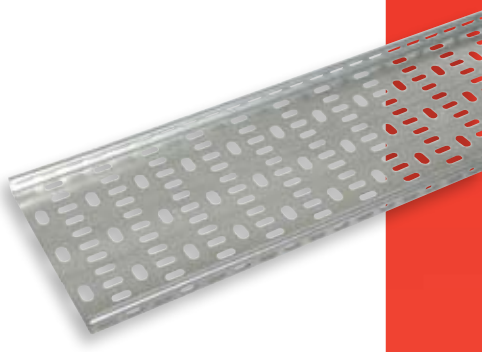
Female Solder

Part No	Danfoss Code No	Size	Code
SGI+ 6S	014F0034	1/4" sw	302524
SGI+ 10S	014F0035	3/8" sw	302526
SGI+ 12S	014F0036	1/2" sw	302530
SGI+ 16S	014F0044	5/8" sw	302546
SGI+ 19S	014F0047	3/4" sw	302550
SGI+ 22S	014F0039	7/8" sw	302532

Cable Tray

The tray is medium duty (code 3), manufactured from cold rolled mild steel and pre-galvanised. There is a standard pattern of holes, featuring alternating rows or horizontal and vertical slots, to provide improved flexibility in design and increased ease of installation.

Part No	Gauge (mm)	Size (mm)	Length (mm)	Description	Box Qty	Code
TUMLT 100/10PG	0.8	100	3000	Cable tray - medium duty	1	292636
TUMLT 150/10PG	0.8	150	3000	Cable tray - medium duty	1	292635
TUMLT 300/15PG	1.2	300	3000	Cable tray - medium duty	1	292637
TUMLT 450/15	1.2	450	3000	Cable tray - medium duty	1	292639
TUM/SC	-	-	-	Cable tray joiners (per pair)	1	292640



Steel and Aluminium Channel

A range of pre-galvanised steel channel, available in either plain or slotted (14mm x 25mm holes at 50mm centres). The plain aluminium channel is to be used in conjunction with Insulclamps or Quick Positioning Clips.

Part No	Gauge (mm)	Size (mm)	Length (mm)	Description	Box Qty	Code
P1000	2.5	41 x 41	3000	P1000 Plain steel channel	1	292578
P1000T	2.5	41 x 41	3000	P1000T Slotted steel channel	1	292582
P3300	2.5	41 x 21	3000	P3300 Plain steel channel	1	292586
P3311126	2.5	41 x 21	6000	P3300 Plain steel channel	1	292818
P3300T	2.5	41 x 21	3000	P3300T Slotted steel channel	1	292590
Channel	2.5	40 x 20	3000	Plain aluminium channel	1	292826

SEE P15-16 FOR FITTINGS AND ACCESSORIES

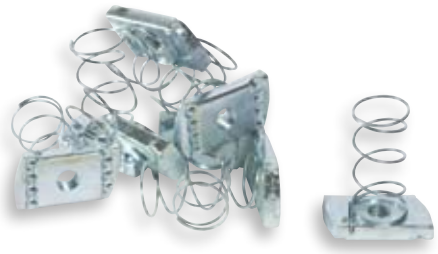
End Caps

Polypropylene inserts for P1000 and P3300 channel, available in black or white.

Part No	Gauge (mm)	Size (mm)	Length (mm)	Description	Box Qty	Code
1394197	-	41 x 41	-	Black polypropylene inserts	1	292594
1392197	-	41 x 21	-	Black polypropylene inserts	1	292598
1394196	-	41 x 41	-	White polypropylene inserts	1	293000
1392196	-	41 x 21	-	White polypropylene inserts	1	292999

Channel Nuts

Zinc electroplated fittings, designed for compatibility with all Unistrut channel.



Part No	Gauge (mm)	Size (mm)	Length (mm)	Description	Box Qty	Code
PNP06ZP	-	M6	-	Channel nut	100	292602
PNP08ZP	-	M8	-	Channel nut	100	292606
PNP10ZP	-	M10	-	Channel nut	100	292610
PNP12AZP	-	M12	-	Channel nut	100	292614
PNS06ZP	-	M6	-	Sprung channel nut for P3300(T)	100	292603
PNS08ZP	-	M8	-	Sprung channel nut for P3300(T)	100	292607
PNS10ZP	-	M10	-	Sprung channel nut for P3300(T)	100	292611
PNS12AZP	-	M12	-	Sprung channel nut for P3300(T)	100	292615
PNL06ZP	-	M6	-	Sprung channel nut for P1000(T)	100	292618
PNL08ZP	-	M8	-	Sprung channel nut for P1000(T)	100	292622
PNL10ZP	-	M10	-	Sprung channel nut for P1000(T)	100	292626
PNL12AZP	-	M12	-	Sprung channel nut for P1000(T)	100	292630
QRN08ZP	-	M8	-	Kwikstrut channel nut - reduces nut inst. time by 50%	100	292631
QRN10ZP	-	M10	-	Kwikstrut channel nut - reduces nut inst. time by 50%	100	292632

Cantilever Arms

Hot-dip galvanised arms ideal for supporting cable tray, evaporators and condensing units.

Part No	Gauge (mm)	Size (mm)	Length (mm)	Description	Box Qty	HRP Code
P2663/150	2.5	41 x 41	150	Cantilever arm - plain steel	1	292690
P2663/300	2.5	41 x 41	300	Cantilever arm - plain steel	1	292691
P2663/450	2.5	41 x 41	450	Cantilever arm - plain steel	1	292692
P2663/600	2.5	41 x 41	600	Cantilever arm - plain steel	1	292693
P2663/750	2.5	41 x 41	750	Cantilever arm - plain steel	1	292694

Bolts, Nuts and Washers

A selection of stainless steel, zinc plated and hot-dip galvanised accessories.

Part No	Gauge (mm)	Size (mm)	Length (mm)	Description	Box Qty	Code
9345M6	-	M6	-	Hexagonal full-nuts - zinc plated	100	292679
9345M8	-	M8	-	Hexagonal full-nuts - zinc plated	100	292680
9345M10	-	M10	-	Hexagonal full-nuts - zinc plated	100	292681
9345M12	-	M12	-	Hexagonal full-nuts - zinc plated	100	292682
1255M6	-	M6	12.5	Washers - zinc plated	100	292683
1255M8	-	M8	17.0	Washers - zinc plated	100	292684
1255M10	-	M10	21.0	Washers - zinc plated	100	292685
1255M12	-	M12	24.0	Washers - zinc plated	100	292686
PYWM06X25	-	M6	18.0	Penny washers - zinc plated	100	292687
PYWM08X25	-	M8	24.0	Penny washers - zinc plated	100	292688
PYWM10X25	-	M10	30.0	Penny washers - zinc plated	100	292689
P1019	5	M6/M8	40 x 40	Square washers - hot-dip galvanised	100	292695
P1020	5	M10/M12	40 x 40	Square washers - hot-dip galvanised	100	292696
RFB06X16	-	M6	-	Roofing bolts 16mm with square nuts	100	292674
UKHHM620	-	M6	-	M6 X 20MM HEX HEAD SET SCREW	100	292887
UKHHM630	-	M6	-	M6 X 30MM HEX HEAD SET SCREW	100	292888
UKHHM820	-	M8	-	M8 X 20MM HEX HEAD SET SCREW	100	292889
UKHHM630	-	M8	-	M8 X 30MM HEX HEAD SET SCREW	100	292890
UKHHM1020	-	M10	-	M10 X 20MM HEX HEAD SET SCREW	100	292891
UKHHM1030	-	M10	-	M10 X 30MM HEX HEAD SET SCREW	100	292892
UKHHM1225	-	M12	-	M12 X 25MM HEX HEAD SET SCREW	100	292893
UKHHM1240	-	M12	-	M12 X 40MM HEX HEAD SET SCREW	100	292894

Steel and Zinc Plated Threaded Rod

A selection of stainless steel and zinc plated threaded rod.

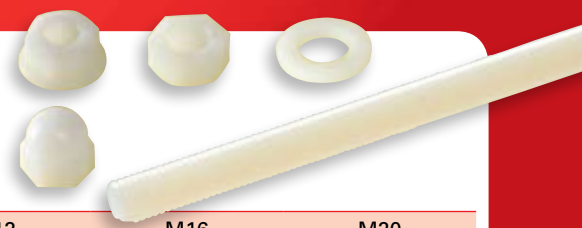
Part No	Gauge (mm)	Size (mm)	Length (mm)	Description	Box Qty	Code
9755M6X3M	-	M6	3000	Threaded rod - zinc plated	1	292675
9755M8X3M	-	M8	3000	Threaded rod - zinc plated	1	292676
9755M10X3M	-	M10	3000	Threaded rod - zinc plated	1	292677
9755M12X3M	-	M12	3000	Threaded rod - zinc plated	1	292678
UKSCM8	-	M8	-	M8 Threaded Rod Connector	10	292881
UKSCM10	-	M10	-	M10 Threaded Rod Connector	10	292882

Channel Brackets and Fixings

Part No	Description	Code
UKCTSO 100PG	Stand-Off Bracket 100MM	292864
UKCTSO 150PG	Stand-Off Bracket 150MM	292865
UKCTSO 225PG	Stand-Off Bracket 225MM	292866
UKCTSO 300PG	Stand-Off Bracket 300MM	292867
UKCTSO 450PG	Stand-Off Bracket 450MM	292868
UKMSF 504	4 Hole Plate	292869
UKMSF 507	4 Hole T Bracket	292870
UKMSF 506	3 Hole L Bracket	292871
UKMBP 305	Double Fix Base Plate	292872
UKMSA 601	90° Hole Angle Bracket	292873
UKMSA 603	90° 3 Hole Angle Bracket	292874
UKMSA 605	90° 4 Hole Angle Bracket	292875
UKMBFC 8	Flange Clamp	292876
UKMBFC 10	Flange Clamp	292877
UKMBC 404	Window Bracket 41 x 41mm	292878
UKMBC 407	Window Bracket 41 x 21mm	292879
UKMSA 615	Obtuse Angle Bracket	292880
UKLBM810	M810 Rawl Bolts	292883
UKLBM1010	M1010 Rawl Bolts	292884
UKPBM810	M810 Projection Bolts	292885
UKPBM10115	M1015 Projection Bolts	292886

Stand-Off Bracket
4 Hole Plate
4 Hole T Bracket
3 Hole L Bracket
Double Fix Base Plate
90° Hole Angle Bracket
90° Hole Angle Bracket
90° 4 Hole Angle Bracket
Flange Clamp
90° 4 Hole Angle Bracket
Window Bracket 41 x 21mm
Obtuse Angle Bracket
M1010 Rawl Bolts
M1015 Projection Bolts

Nylon Threaded Rod and Accessories



This rod, together with the fastenings can be used to provide a corrosion resistant mechanical support for unit coolers etc. Available in sizes from M6 up to M20. Supplied in 1m lengths.

Description	M6	M8	M10	M12	M16	M20
	Code	Code	Code	Code	Code	Code
Threaded rod	175307	175315	175323	175331	17 5358	175366
Plain nuts	175374	175382	175390	175404	175412	175420
Washerfaced nuts	175439	175447	175455	175463	175471	-
Domed nuts	175498	175501	175528	175536	-	-
Washers	175544	175552	175560	175579	175587	175595

Condensing Unit Mounting Brackets - Type 1

Top, central or low mounting wall brackets, this choice of three positions enables the siting of equipment in difficult areas. Finished in a high quality ivory powder coat paint. Designed for easy installation, boxed and complete with necessary fittings to mount unit as required (excludes Rawl bolts).

Part No	Description	Code
Type 1- 140	140kg (maximum load)	604399

Condensing Unit Mounting Brackets - Type 2 (Cross Rail)

Low mounting cross rail wall brackets. Self adjusting, designed for a quick installation and easy levelling on uneven wall surfaces. Finished in a high quality ivory powder coat paint. Designed for easy installation, boxed and complete with necessary fittings to mount unit as required (excludes Rawl bolts).

Part No	Description	Code
Type 2 - 60	60kg (maximum load)	604315
Type 2 - 90	90kg (maximum load)	604317
Type 2 - 140	140kg (maximum load)	604319

Condensing Unit Mounting Brackets - Type 2 (Cross Rail with Spirit Level)

CBR2 brackets have a crossbar to make positioning of the brackets easier and include a wall spacer to help level the unit on uneven walls. CBR2 brackets incorporate a built-in spirit level to ensure perfect horizontal fitting of the crossbar. Complete with necessary fittings to mount unit as required (excludes Rawl bolts).

Part No	Description	Code
CBR2-M	90kg (maximum load)	603868

Condensing Unit Mounting Brackets - Type 3 (Cross Rail with Spirit Level)

Flat-packed brackets, epoxy-polyester powder coated with a scratch resistant textured finish (RAL 7023).
An innovative interlocking mechanism enables the arms to be joined to the uprights in a matter of seconds.
A spring lock automatically secures the joint, preventing the arms from being dislodged accidentally.
Complete with necessary fittings to mount unit as required (excludes Rawl bolts).
CBR3 brackets incorporate a built-in spirit level to ensure perfect horizontal fitting of the crossbar.

Part No	Description	Code
CBR3-M	90kg (maximum load)	601628
CBR3-L	140kg (maximum load)	601629

Polyamide Condensing Unit Mounting Brackets

These brackets are strong and resistant thanks to their special shape and material. They have a high resistance against UV rays and salt and will not rust. They are light and compact, easy to carry and easy to install.

Part No	Description	Code
9794-502	100kg (maximum load each)	604750

Condensing Unit Trays for Wall Mounting Brackets

Part No	Description	Dimensions (mm)	Code
Small	Powder coated galvanised steel	800 L x 400 W x 50 H	604321
Large	Powder coated galvanised steel	1100 L x 400 W x 50 H	604323
CCT790	Reinforced lightweight plastic	790 L x 390 W x 50 H	601618
CCT940	Reinforced lightweight plastic	940 L x 420 W x 50 H	601620

Security Guards for Condensing Units (BBJ type)

A range of unobtrusive condensing unit housings which helps prevent damage and vandalism.

- Aluminium frame with powder coated steel panels
- Ivory colour
- All panels removable for maintenance
- Easy to install
- Wall mounted as standard
- Back panel available for free standing installations
- Bottom panels are available for guards fixed at high level

Description	Internal Dimensions (mm)			External Dimensions (mm)			Code
	Height	Width	Depth	Height	Width	Depth	
Small Condensing Unit Security Guard	600	900	350	700	1000	450	604396
Medium Condensing Unit Security Guard	1000	1000	500	1100	1100	600	604397
Large Condensing Unit Security Guard	1300	1000	500	1400	1100	600	604398

Ancillaries and Spares

Cage size	Back or Front Panel	Top Panel	Side Panel
	Code	Code	Code
Small	604382	604385	604388
Medium	604383	604386	604389
Large	604384	604386	604390

Security Guards for Condensing Units (PH type)

A range of unobtrusive condensing unit housings helps prevent damage and vandalism.

- Floor mounted cage assembly excludes bottom panel
- Unique sliding panel system for quick and easy assembly
- Ivory colour 8 phase epoxy coated components
- Floor standing as standard
- Base and back panels available for free standing or high wall installation

Description	Internal Dimensions (mm)			External Dimensions (mm)			Code
	Height	Width	Depth	Height	Width	Depth	
Small	720	1020	450	750	1050	460	601630
Medium	1120	1120	640	1150	1150	650	601633
Large	1420	1120	640	1450	1150	650	601636
Extra Large	1770	1120	640	1800	1150	650	601660

Ancillaries and Spares

Cage size	Sliding Access Panel (Side)	Base Panel	Front / Back Panel	Adjustable Feet (per pair)
	Code	Code	Code	Code
Small	601662	601639	601648	601657
Medium	601664	601642	601651	
Large	601666	601645	601654	

Security Guards for Condensing Units (Basic type)

Base and/or back panels are not available for this basic range of guards.

Description	Internal Dimensions (mm)			External Dimensions (mm)			Code
	Height	Width	Depth	Height	Width	Depth	
Floor Mounted	870	1120	490	900	1150	500	601624
Wall Mounted	1170	1120	490	1200	1150	500	601627

Security Guards for VRF Outdoor Units

Description	Internal Dimensions (mm)			External Dimensions (mm)			Code
	Height	Width	Depth	Height	Width	Depth	
Base kit	1970	1130	1190	2000	1160	1200	601721
Extension Kit 1 *	1970	580	1190	2000	600	1200	601729
Extension Kit 2 *	1970	1160	1190	2000	1200	1200	601737

* Requires Base Kit (601721)

Steel Flat Packed - Hermetic Condensing Unit Housing

This range offers enclosures for all the hermetic units up to 6hp. We have specified the units we offer, but other manufactures' units will also be acceptable as the housings include a base frame. Fast access is via an easily removable louvre panel and the design offers additional space around the unit to accommodate ancillary equipment such as oil separator, isolator, suction accumulator etc. The top and side panels also lift off as a complete assembly, providing total access for major service work.

				Condensing Unit Models						
Model No.	Internal Dims. (mm)			Aspera		Danfoss		L'Unite		Code
	Depth	Width	Height	From	To	From	To	From	To	
HRP-A	565	495	335	UNB6144GK	UJ6220GK	FR6220GK	FR11GXT2	AZ1335YB	AEZ2380YBR	291102
				UNE2125GK-2	UJ2212GK/S	TL4CLXT2	SC21CLXT2	AEZ3425YH	T/CAJ4461YHR	
				UNB6144E-2	UT6220E	TL4GXT2	SC21GXT2	AE1417ZB	T/CAJ2428ZBR	
				UNE2125E	UNE2134E	SC10CMXT2	SC12CMX2	AE3450ZH	CAE9460ZMHR	
				UNB6144Z-2	UJ6226Z	SC15BMXT2	SC18BMXT2	AEZ4425EHR	CAE9460TMHR	
				-	-	SC12BXT2	SC21BXT2	-	-	
				-	-	SC10DMXT2	SC12DMXT2	-	-	
HRP-B	665	595	435	UJ7228F	UJ7240F	SC15DMXT2	SC15/15DMXT2	CAJ9480TMHR	T/CAJ9513TMHR	291110
				UJ9226GK	UJ9238GK/S	SC10/10CLXT2	SC21/21CLXT2	CAE9470ZMHR	T/CAJ9513ZMHR	
				-	-	SC12/12GXT2	SC21/21GXT2	CAJ2446ZBR	T/CAJ2464ZBR	
				-	-	SC10/10CMXT2	SC15/15BMXT2	CAJ4476YHR	T/CAJ4511YHR	
HRP-C				-	-	-	-	T/CAJ4517EHR	T/FH4524FHR	
	765	715	485	-	-	-	-	T/CAJ4517ZHR	T/FH4524ZHR	291129
				-	-	-	-	T/FH2480ZBR	T/FH2511ZBR	
HRP-D	750	895	585	-	-	-	-	TAG4528YHR	-	291137
				-	-	-	-	T/FH4531FHR	TAG4573THR	
HRP-E	780	1235	675	-	-	-	-	T/FH4531ZHR	TAG4573ZHR	291145
				-	-	-	-	TAG4534YHR	TAG4543YHR	

Coolers and Condensing Units - please refer to the HRP Refrigeration Systems Guide

Virgo GRP- Hermetic Condensing Unit Housing

Virgo glass reinforced white plastic housings are designed to suit a wide range of refrigeration condensing units, requiring waterproof, ventilated protective housings which are easily installed, give good access for inspection purposes and are easily accessible for servicing.

- Optional rear louvre(s) for condenser inlet aperture(s); models 5,6 and 7 are supplied as a pair.
- Optional accoustically lined housing (helps dampen the compressor or noise, which tends to dominate on units fitted with face speed control).

				Condensing Unit Models							
Model No.	Internal Dims. (mm)			Aspera		Danfoss		L'Unite		Item	Code
01	584	584	432	UNB6144GK	UJ9226GK	FR6GXT2	FR11GXT2	AZ1335YB	AEZ2380YBR	Standard	291005
				UNE2125GK-2	UJ2212GK/S	TL4CLXT2	SC21CLXT2	AEZ3425YH	T/CAJ4511YHR	Accoustic	291006
				UNB6144E-2	UJ7228F	TL4GXT2	SC21GXT2	AE1417ZB	T/CAJ2464ZBR	Inlet Louvre	291007
				UNE2125E	UNE2134E	SC10CMXT2	SC21CMXT2	AE3450ZH	T/CAJ9513ZMHR		
				UNB6144Z-2	UJ6226Z	SC15BMXT2	SC18BMXT2	AEZ4425EHR	T/CAJ9513TMHR		
				-	-	SC12BXT2	SC21BXT2	-	-		
				-	-	SC10DMXT2	SC12DMXT2	-	-		
1	762	660	610	UJ9232E	UJ7240F	SC15DMXT2	SC15/15DMXT2	T/CAJ4517EHR	T/FH4524FHR	Standard	291013
				UJ9232GK/S	UJ9238GK/S	SC10/10CLXT2	SC21/21CLXT2	T/CAJ4517ZHR	T/FH4524ZHR	Accoustic	291014
				-	-	SC12/12GXT2	SC21/21GXT2	TFH2480ZBR	TFH2511ZBR	Inlet Louvre	291015
				-	-	SC10/10CMXT2	SC15/15BMXT2	FH4518YHR	TAG4537YHR		
2				-	-	-	-	-	-	Standard	291021
	965	838	762	-	-	-	-	-	-	Accoustic	291022
				-	-	-	-	-	-	Inlet Louvre	291023
3				-	-	-	-	FH4531FHR	TAG4573THR	Standard	291048
	813	1143	787	-	-	-	-	FH4531ZHR	TAG4573ZHR	Accoustic	291049
				-	-	-	-	TAG4543YHR	-	Inlet Louvre	291050
4				-	-	-	-	-	-	Standard	291056
	1092	1118	914	-	-	-	-	-	-	Accoustic	291057
				-	-	-	-	-	-	Inlet Louvre	291058
5				-	-	-	-	-	-	Standard	291064
	965	1753	914	-	-	-	-	-	-	Accoustic	291065
				-	-	-	-	-	-	Inlet Louvre	291066
6				-	-	-	-	-	-	Standard	291072
	1092	1422	1219	-	-	-	-	-	-	Accoustic	291073
				-	-	-	-	-	-	Inlet Louvre	291074
7				-	-	-	-	-	-	Standard	291080
	1346	1880	1372	-	-	-	-	-	-	Accoustic	291081
				-	-	-	-	-	-	Inlet Louvre	291082

Condensing Unit Mounting Blocks

Versatile mounting blocks manufactured in rigid polyvinyl. Supplied complete with necessary bolts, nuts and washers.

Part No	Size	Code
SB450	BBJ Blocks 450mm (250kg max. point load)	600114
SB1000	BBJ Blocks 1000mm (250kg max. point load)	600105
9898-036-95	Sauermann 450mm (250kg max. point load)	605654
9898-035-95	Sauermann 1000mm (250kg max. point load)	605656
9898-039-95	Sauermann Block End Cap	605658

Machinery Mounting Pad

These mounting pads are made from AVSP-52 material suitable for condensing units and other plant.

Part No	Size	Code
AVSP-52	1270mm x 100mm x 12.5mm	170686
AVSP-52	1270mm x 75mm x 12.5mm	170688
AA-002009	Adhesive flammable (1L)	170705

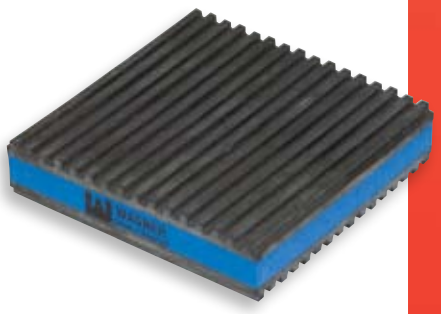
ArmaCush Anti-Vibration Strips

Part No	Size	Code
ArmaCush	500mm x 50mm x 15mm	603310
ArmaCush	1200mm x 75mm x 15mm	603311

EVA Anti-Vibration Pad

This anti-vibration pad features special foam centre ply.
The composite design gives the vibration dampening properties of the foam and the durability of the rubber surface.

Part No	Size	Max load	Code
MP-4E	100mm x 100mm x 22mm	50 psi	603313



UltraLite Paving Slabs

Light weight self levelling slab 1/8th the weight of patio stones. Requires little or no ground preparation. Durable and vibration absorbing, chemical and weathering resistant . U.L. classified. Maximum concentrated load of 56kg per 50mm dia area.

It is the contractor's responsibility to ensure the surface will support the total weight of the UltraLite slab plus unit mounted on it.

Description	Dimensions mm					Code
	Height	Length	Width	weight (kg)	Max load (kg*)	
Small	50	910	410	4.7	343	604326
Medium	50	610	610	4.7	270	604328
Large	76	1220	610	9.4	703	604332

* Assumes the slab is mounted on a surface with a load bearing capacity of 48kPa.

Big Foot and Multi Foot Support Systems

- Universal framework for mounting on a flat roof.
- Suitable for small external condensing or ventilation unit.
- Modular frame allows width and length adjustment to suit different size units.
- Feet can be individually removed to facilitate re-roofing and roof maintenance.

It is the contractor's responsibility to ensure the surface will take the total weight of the framework plus units mounted on it.

		2 Unit System	4 Unit System	6 Unit System	
Big Foot Code		Qty	Qty	Qty	Code
B6067	1000mm End Bar	2			604413
B6073	2000mm End Bar		2		604414
B6076	3000mm End Bar			2	604417
B6095	Black End Caps (incuded)	4	4	4	-
B6090	Boxed Leg Assy 305mm	4	6	8	
					604419
B6083	Unit Clamp Kit (Bag of 4)	2	4	6	604421
B6069	1200mm Cross Bar	2	4	6	604423
B6107	M10x20mm Bolts (included)	4	8	12	-
					604338

2 Unit system

4 Unit system

6 Unit system

Span of metalwork when assembled	1.0m x 1.3m	2.0m x 1.3m	3.0m x 1.3m
Framework weight	42kg	70kg	97kg
Leg height adjustment (Floor to framework)	245mm-375mm	245mm-375mm	245mm-375mm
Max recommended load = (120kg per foot)	480kg	720kg	960kg
Max length of framework (to outside of feet)	1.25m	2.25m	3.25m
Max width of framework (to outside of feet)	1.65m	1.65m	1.65m

H Frame Set

The H Frame set offers a quick, economical and flexible solution to the problem of supporting ductwork, pipework or cable trays.
Includes 2 x feet, 2 x unistrut inserts, 2 x L-brackets and 4 x M10 bolts Takes standard 41mm x 41mm Unistrut (not included).

Description	Dimensions mm					Code
	Height	Length	Width	weight (kg)	Max load (kg)	
H Frame Set Small	-	305	305	4	120	604339
H Frame Set Large	-	450	450	10	250	604312
Anti Vibration Pad (per foot)	-	305	305	1	-	604338

Multi Foot Support Systems

For supporting small or large pipework systems, cable trays, ductwork or any combination you require.
Takes standard 41mm x 41mm Unistrut, 40mm Channel horizontally or 12mm diameter threaded rod vertically (not included).

Description	Dimensions mm					Code
	Height	Length	Width	weight (kg)	Max load (kg)	
Multi Foot 400	-	400	180	3	160	604301
Multi Foot 600	-	600	220	4	300	604304
Anti Vibration Pad (per foot)	-	400	180	1	-	604309
Anti Vibration Pad (per foot)	-	600	220	1	-	604307

Fix.It Foot

A neat and tidy support solution that spreads the weight of the supported plant without penetrating the waterproof membrane. Each foot can be moved individually to allow easy maintenance of the surface without removing or decommissioning services.
The Fix.It Foot is made of durable recycled rubber which offers built-in anti-vibration.

Description	Dimensions mm		Code
	Length	Width	
Small	250	120	604427
Medium	400	120	604428
Large	600	120	604431

Trunking, Connectors and Accessories

Features and Benefits:

- Extremely compact pipe covering
- Resistant to low and high temperatures (-20°C to +60°C)
- UV protected
- Quick and easy fitting system
- Colour white (RAL 9010)
- RoHS compliant
- Fire and shock proof PVC

Trunking (2m length)

Part No	Dimensions (mm)	HRP Code
980400108	70 x 55	604680
980200108	90 x 65	604682
980300108	125 x 75	604684

Upper Connectors

Part No	Dimensions (mm)	HRP Code
980410208	70 x 55	604716
980210208	90 x 65	604718
980310208	125 75	604720

End Covers

Part No	Dimensions (mm)	HRP Code
980411408	70 x 55	604686
980211408	90 x 65	604688
980311408	125 x 75	604690

Upper Connector Seal

Part No	Dimensions (mm)	HRP Code
980410308	70 x 55	604722
980210308	90 x 65	604724

External Elbows

Part No	Dimensions (mm)	HRP Code
980411308	70 x 55	604692
980211308	90 x 65	604694
980311308	125 x 75	604696

Wall Bends

Part No	Dimensions (mm)	HRP Code
980411608	70 x 55	604728
980211608	90 x 65	604730
980311608	125 x 75	604732

Internal Elbows

Part No	Dimensions (mm)	HRP Code
980411208	70 x 55	604698
980211208	90 x 65	604700
980311208	125 x 75	604702

Wall Ducts

Part No	Dimensions (mm)	HRP Code
980411108	70 x 55	604734
980211108	90 x 65	604736
980311108	125 x 75	604738

Flat Bends

Part No	Dimensions (mm)	HRP Code
980411508	70 x 55	604704
980211508	90 x 65	604706
980311508	125 x 75	604708

T-Joints

Part No	Dimensions (mm)	HRP Code
980220008	90 x 65	604740
980320008	125 x 75	604742

Tightening Clamps

Part No	Dimensions (mm)	HRP Code
980410100	70 x 55	604710
980210100	90 x 65	604712
980310100	125 x 75	604714

Reducer Joints

Part No	Dimensions (mm)	HRP Code
9804-201-08	90 - 70	604744
9802-201-08	90 - 65	604746
9803-201-08	125 - 90	604747

Inoac Plastic Trunking

Easy to use and aesthetically pleasing ivory coloured plastic, for professional installations of pipework and wiring.

Straight Duct

Part No	Box Qty	HRP Code
CD 60	5	604340
CD 75	5	604341
CD 100	5	604342

Outlet Cover

Part No	Box Qty	HRP Code
NW 60	5	604343
NW 75	5	604344
NW 100	5	604345

Horizontal Elbow

Part No	Box Qty	HRP Code
NE 60	5	604346
NE 75	5	604347
NE 100	5	604348

Vertical Elbow

Part No	Box Qty	HRP Code
NC 60	5	604349
NC 75	5	604350
NC 100	5	604351

Socket

Part No	Box Qty	HRP Code
NS 60	5	604352
NS 75	5	604353
NS 100	5	604354

Flexible Joint

Part No	Box Qty	HRP Code
NF 60	5	604356
NF 75	5	604357
NF 100	5	604358

Horizontal Universal Elbow

Part No	Box Qty	HRP Code
NX 60	5	604359
NX 75	5	604360
NX 100	5	604361

T-Joint

Part No	Box Qty	HRP Code
NT 100	1	604355
NT 75	1	604411

Vertical Universal Elbow

Part No	Box Qty	HRP Code
NZ 60	5	604362
NZ 75	5	604363

End Socket

Part No	Box Qty	HRP Code
NR 60	5	604364
NR 75	5	604365

Horizontal Elbow 45°

Part No	Box Qty	HRP Code
NM 60	5	604366
NM 75	5	604367
NM 100	5	604368

Vertical Elbow 45°

Part No	Box Qty	HRP Code
NU 60	5	604369
NU 75	5	604370
NU 100	5	604371

Corner Cap

Part No	Box Qty	HRP Code
NA 75	5	604372
NA 100	5	604373

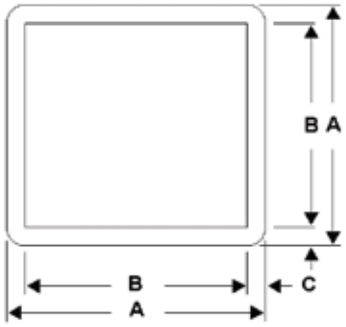
Wall Cap

Part No	Box Qty	HRP Code
NK 60	5	604374
NK 75	5	604375
NK 100	5	604376

Universal and Mitsubishi Heavy Industries Space Collars

- A range of unobtrusive unit collars that allows units to be installed where the ceiling void height is insufficient
- Fits between the fascia of the cassette and the ceiling
- Compatible with most makes of cassette including Toshiba, Daikin, Mitsubishi Electric, Mitsubishi Heavy Industries, Fujitsu General and Marstair
- Manufactured from glass fibre reinforced plastic
- MHI - colour light grey/white (BS22B15), similar to Mitsubishi cassette fascia. Universal type - white (RAL9010)
- Available up to 300mm high (special order above 150mm high)
- Angled cuts available to special order (to suit angled ceilings)

Note: MH versions are Mitsubishi Heavy Industries specific



U1 - Universal Space Collars - Compact

Description	Dimensions					Code
	Height mm	A mm	B mm	C mm	Weight kg	
U1-50	50	750	585	82.5	1.0	629844
U1-100	100	750	585	82.5	1.5	629852
U1-150	150	750	585	82.5	2.0	629858

U2 - Universal Space Collars - Standard

Description	Dimensions					Code
	Height mm	A mm	B mm	C mm	Weight kg	
U2-50	50	1000	855	72.5	1.50	629806
U2-100	100	1000	855	72.5	2.00	629822
U2-150	150	1000	855	72.5	2.50	629830

MH4 - Space Collars - MHI FDTCA /STM

Description	Dimensions					Code
	Height mm	A mm	B mm	C mm	Weight kg	
MH4-50	50	705	575	65	1.0	623842
MH4-100	100	705	575	65	1.5	623858
MH4-150	150	705	575	65	2.0	623864

MH5 - Space Collars - MHI FDT / FDTA

Description	Dimensions					Code
	Height mm	A mm	B mm	C mm	Weight kg	
MH5-50	50	950	846	52	1.50	629802
MH5-100	100	950	846	52	2.00	629818
MH5-150	150	950	846	52	2.50	629826

Peristaltic Type (Non-Tank)

Peristaltic pumps are rotary design, this means they are quiet in operation, very reliable and can run dry without fear of damage or loud noise. They also have the additional benefit of being self-priming. The maximum flow rates indicated are values measured whilst pumping against zero/negligible resistances.

Aspen Universal

Little Giant PCT-10

Sauermann PE5100

Make	Model	Max.Head (m)	Max.Lift (m)	Max.Flow (l/hr)	Conn.ID (")	Dimensions (mm) Height	Width	Depth	Code
Aspen	Standard	12	2	6.25	1/4	142	83	175	602094
Aspen	Universal	12	2	6.25	1/4	142	83	175	602108
Aspen	MK4	12	2	6.25	1/4	142	83	175	602051
Aspen	Mechanical	12	2	6.25	1/4	142	83	175	602035
Little Giant	PCS-10	14	2	10	1/4	114.8	98.3	95.5	601771
Little Giant	PCT-10	14	2	10	1/4	114.8	98.3	95.5	601773
Little Giant	PCR-10	14	2	10	1/4	114.8	98.3	95.5	601775
Little Giant	PCR-10S	14	2	10	1/4	114.8	98.3	95.5	601777
Sauermann	PE5000 Standard	12	2	6	1/4	91	109	102	605606
Sauermann	PE5100 Universal	12	2	6	1/4	91	109	102	605608
Sauermann	PE5200 Float	12	2	6	1/4	91	109	102	605610

Notes: 'Max. Head' relates to the discharge side of the pump, 'Max. Lift' relates to the suction side of the pump.

Tank Type (Centrifugal, Piston and Peristaltic)

Designed to collect water inside the sump, has to be sited on a level surface. They operate when a float mechanism rises, there is usually a second float to trip a fault condition. Tank pumps should be flushed through bi-annually with an anti-bacterial solution to avoid any sludge build-up.
The maximum flow rates indicated are values measured whilst pumping against zero/negligible resistances.

Aspen Hi-Flow 2

Little Giant VCMA20S

Sauermann SI 1800

Make	Model	Tank (Litre)	Max.Head (m)	Max.Lift (m)	Max.Flow (l/hr)	Conn.ID ("/mm)	Dimensions (mm) Height	Width	Depth	Code
Aspen	Hi-Lift 1	1.0	12	-	11	1/4	130	235	140	602116
Aspen	Hi-Lift 2	2.0	12	-	11	1/4	160	235	140	602118
Aspen	Hi-Flow 1	1.0	4	-	288	1/4	130	235	140	602124
Aspen	Hi-Flow 2	2.0	4	-	288	1/4	160	235	140	602043
Aspen	Mini Blanc	(1)	10	-	12	6	115	180	55	602045
Little Giant	VCMA 10	1.9	3.5	-	266	3/8	178	288	127	601685
Little Giant	VCC 20 S	1.1	4.3	-	294	3/8	127	300	125	601594
Little Giant	VCMA 20 S	1.9	4.3	-	294	3/8	178	250	127	601683
Little Giant	VCMX 20 S	2.0	6	-	300	3/8	122	260	165	601684
Little Giant	VCL 24 S	3.8	5.9	-	900	3/8	263	305	150	601608
Little Giant	VCL 45 S	3.8	10.5	-	1560	3/8	267	305	150	601616
Little Giant	EC-OP-K	(1)	12	-	14	4	89	210	81	601680
Pump House	PH 0.2L	0.2	1.5	-	120	3/8	85	65	165	601692
Pump House	PH 0.5L	0.5	4	-	350	3/8	100	85	185	601694
Pump House	PH 2L	1.9	4.8	-	300	1/4	180	130	290	601696
Sauermann	EE 1650	0.5	13	-	30	1/4	100	159	84	605618
Sauermann	SI 1800	2.0	4.7	-	300	3/8	161	283	127	605634
Sauermann	SI 1805	0.5	5.4	-	500	3/8	122	195	130	605602
Sauermann	SI 1820	2.0	5.4	-	500	3/8	170	195	130	605604
Sauermann	SI 1821 Heating pump	2.0	5.4	-	500	3/8	170	195	130	604752

Notes: 'Max. Head' relates to the discharge side of the pump, 'Max. Lift' relates to the suction side of the pump.

Split/Remote Sensor Type

This type of pump is designed for use in air conditioners and other cooling appliances, where internal space permits. The dimensions shown relate to the main control unit rather than the sensor head itself. Most units are suitable for remote mounting such as in a ceiling void, the separation is restricted by the pump suction lift capability.

All units come complete with sensor, except the two Hydron models where a choice can be made (Pump Accessories). The maximum flow rates indicated are values measured whilst pumping against zero/ negligible resistances.

Make	Model	Max.Head (m)	Max.Lift (m)	Max.Flow (l/hr)	Conn.ID ("/mm)	Dimensions (mm) Height	Width	Depth	Code
Aspen	Mini Orange	8	1	18	6	52	88	38	602120
Aspen	FP 2124 Mini Lime OEM	8	1	14	6	79	93	44	602123
Aspen	FP 1500 Mini Lime 800mm of white trunking	8	1	14	6	Fits into the 90° elbow			602122
Aspen	FP 2100 Mini Lime to fit Inoac/Inaba trunking	8	1	14	7	Fits into the 90° elbow			602121
Aspen	Mini Aqua condensate pump	8	1	14	6	28	165	28	602096
Aspen	Maxi Orange	20	1	37	6	66	122	44	602146
Aspen	FP 2214 Maxi Lime to fit Inoac/Inaba trunking	20	1	37	6	Fits into the 90° elbow			602143
Little Giant	EC400	12	1	14	6	37	110	35	601762
Pump House	DE-05-FD Flowatch	6	1	10	6	Fits into the 90° elbow			601710
Sauermann	Delta Pack with Economy trunking	6	1	8	6	Fits into the 90° elbow			605632
Sauermann	SI 1730	10	2.5	30	6	70	103	87	605620
Sauermann	SI 2750	6	2	10	6	60	75	38	605600
Sauermann	SI 3080	6	1	8	6	60	66	44	605644
Sauermann	SI 3100	6	2	10	6	60	66	44	605648
Sauermann	SI 3200	6	2	20	6	60	66	44	605652
Sauermann	SI 1082 Monoblock Pump	6	0	8	6	77	44	66	605646
Sauermann	SI 1200 Monoblock Pump	6	0	20	6	77	44	66	605647

Aspen Mini-Lime

Little Giant EC400

Sauermann SAI 2750

Dairy Cabinet Type

Dairy tank pumps are specially designed for Dairy Case installations with a very low profile, to enable fitting below the cabinet. Generally stainless steel or plastic construction. Pumps have to be sited on a level surface. Tank pumps should be flushed through bi-annually with an anti-bacterial solution to avoid any sludge build-up. A vertical pump DCP-30V model is also available for wall mounting - HRP Code 601698

Pump House DCP30E

Pump House DCP30A

Make	Model	Tank (Litre)	Max.Head (m)	Max.Lift (m)	Max.Flow (l/hr)	Conn.ID ("/mm)	Dimensions (mm) Height	Width	Depth	Code
Pump House	DCP-30A Dairy Pump	5.5	23	-	700	40	80	200	610	601689
Pump House	DCP-30E Dairy Pump Eco	6.5	23	-	700	40	80	270	610	601688

Condensate Tubing and Accessories

Part No	Size	Description	Code
RTV-1-4	1/4"	Reinforced PVC hose 30m clear	602282
RTV-1-4	1/4"	Reinforced PVC hose 30m black	602284
RTV-3/8	3/8"	Reinforced PVC hose 30m clear	602286
RTV-3/8	3/8"	Reinforced PVC hose 30m black	602288
RTV-1/2	1/2"	Reinforced PVC hose 30m clear	602290
RTV-1/2	1/2"	Reinforced PVC hose 30m black	602292
7-14	1/4"	Clear vinyl tube 30m	602294
7-38	3/8"	Clear vinyl tube 30m	602296
7-12	1/2"	Clear vinyl tube 30m	602298
RTV-1/4-200	1/4"	Reinforced PVC hose 200m clear (supplied in cardboard dispenser pack)	602300
RTV-3/8-200	3/8"	Reinforced PVC hose 200m clear (supplied in cardboard dispenser pack)	602301
AZCWH206	6-7mm	Tee connector	602132
AZCWH210	10-12mm	Tee connector	602159
AZCWH604	7-12mm	Straight connector	602167
AZNWH904	7-12mm	Non-return valve	602175

PVC Condensate Drain Pipe - Push Fit

Rigid PVC pipe white finish for quick push fit assembly.

Part No	O.D (mm)	Length(mm)	Code
RDP-20	20	3000	600038
RDP-25	25	3000	600039
RDP-32	32	3000	600040

45° Fittings

Part No	O.D (mm)	Code
RDP-20 C45	20	600041
RDP-25 C45	25	600042
RDP-32 C45	32	600043

90° Fittings

Part No	O.D (mm)	Code
RDP-20 C90	20	600044
RDP-25 C90	25	600045
RDP-32 C90	32	600046

Straight Connectors

Part No	O.D (mm)	Code
RDP-20 XT	20	600047
RDP-25 XT	25	600048
RDP-32 XT	32	600049

T-Pieces

Part No	O.D (mm)	Code
RDP-20 T	20	600050
RDP-25 T	25	600051
RDP-32 T	32	600052

Reducers

Part No	O.D (mm)	Code
RDP 25-20	25 - 20	600057
RDP 32-25	32 - 25	600061

Wall Clips

Part No	O.D (mm)	Bag Qty	Code
20MMPC	20	20	600053
25MMPC	25	20	600054
32MMPC	32	20	600055

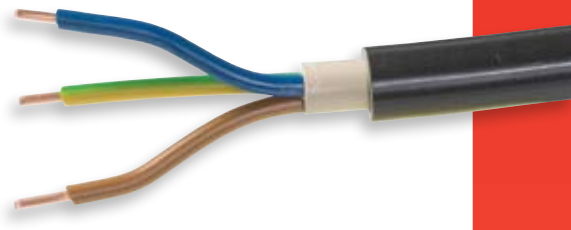
Worm-Drive Clips

Part No	I.D (mm)	Bag Qty	Code
JCR000	9.5 to 12	10	171559
JCRM00	11 to 16	10	171561
JCR00	13 to 20	10	171563
JCR0	16 to 22	10	171565
JCR0X	18 to 25	10	171567
JCR1A	22 to 30	10	171569
JCR1	25 to 35	10	171571
JCR1X	30 to 40	10	171573
JCR1M	32 to 45	10	171575
JCR2A	35 to 55	10	171577
JCR2	40 to 55	10	171579

‘Hi-Tuff’ Type Cable

Black cable suitable as an alternative to SWA where allowed. For use with standard stuffing glands.

Description	Gland Size	Cleat Size	Reel Size	Size
3 core 1.5mm	20	5	100 metres	190695
4 core 1.5mm	20	5	100 metres	190696
5 core 1.5mm	20	6	100 metres	190697
3 core 2.5mm	20	5	100 metres	190698
4 core 2.5mm	20	6	100 metres	190699
3 core 4mm	20	6	100 metres	190700
4 core 4mm	25	6	100 metres	190701



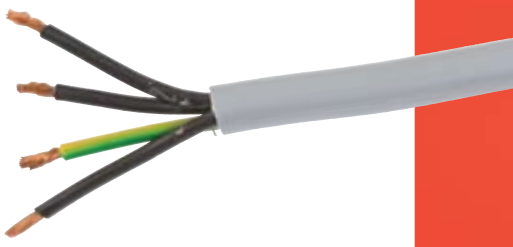
‘SY’ Braided Sheath Cable

Flexible heavy duty cable with a clear PVC Sheath.

Description	Gland Size	Cleat Size	Reel Size	Size
3 core 1.5mm	20	5	100 metres	190782
4 core 1.5mm	20	5	100 metres	190783
5 core 1.5mm	20	5	100 metres	190784
3 core 2.5mm	20	6	100 metres	190785
4 core 2.5mm	20	6	100 metres	190786
3 core 4mm	20	6	100 metres	190787
4 core 4mm	20	7	100 metres	190788

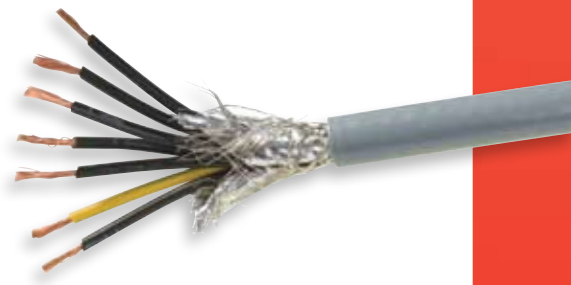
‘YY’ Non-Screened Multicore Cable - Grey

Description	Gland Size	Cleat Size	Reel Size	Size
2 core 0.75mm	20	5	100 metres	190792
3 core 0.75mm	20	5	100 metres	190793
7 core 0.75mm	20	5	100 metres	190795
2 core 1.5mm	20	5	100 metres	190796
3 core 1.5mm	20	5	100 metres	190797
4 core 1.5mm	20	5	100 metres	190798
3 core 2.5mm	20	5	100 metres	190801
4 core 2.5mm	20	6	100 metres	190802



‘LI YCY’ Screened Multicore Cable - Grey

Description	Reel Size	Size
2 core screened 0.75mm	100 metres	190805
3 core screened 0.75mm	100 metres	190806
7 core screened 0.75mm	100 metres	190808



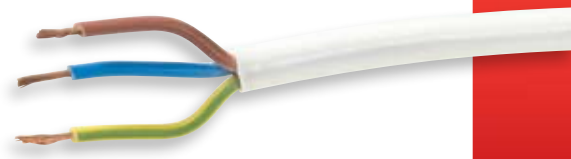
‘LSF’ Fire Resistant Multicore Cable - White

Certified to BS6387 Low Smoke and Flame retardent.

Description	Gland Size	Cleat Size	Reel Size	Size
2 core +Earth 1.5mm	20	5	100 metres	190811
3 core +Earth 1.5mm	20	5	100 metres	190812
4 core +Earth 1.5mm	20	5	100 metres	190813
2 core +Earth 2.5mm	20	6	100 metres	190814
3 core +Earth 2.5mm	20	6	100 metres	190815
4 core +Earth 2.5mm	20	6	100 metres	190816

'3183/4Y' Standard Flex Cable - Black/White

Description	Reel Size	Size
3183Y FLEX 3 CORE 0.75mm WHITE	100 metres	190819
3183Y FLEX 3 CORE 1.5mm WHITE	100 metres	190821
3184Y FLEX 4 CORE 1.5mm WHITE	100 metres	190823
3183Y FLEX 3 CORE 0.75mm BLACK	100 metres	190820
3183Y FLEX 3 CORE 1.5mm BLACK	100 metres	190822
3184Y FLEX 4 CORE 1.5mm BLACK	100 metres	190824



Black Flexible Conduit

Manufactured from polypropylene, rated to IP66. This 20mm conduit is supplied in a 10m coil with 10 off straight adaptors/locknuts.

Part No	Description	Code
FCP20-PK10	10m flexible conduit with adaptors	290723

Black Rubber Grommets

Open and closed type, black rubber grommets, both measuring 20mm each. The grommets have a convex matt finish, the head tapering to thin edge to produce an attractive finish.

Part No	Description	Code
GRO-20	20mm Open-Type	290707
GRC-20	20mm Closed-Type	290715

Cable Stuffing Glands

Part No	Description	Code
20MM S	STUFFING GLAND BLACK (PACK OF 10)	190836
20MM L	STUFFING GLAND WHITE (PACK OF 10)	190837
25MM S	STUFFING GLAND BLACK (PACK OF 10)	190838
25MM L	STUFFING GLAND WHITE (PACK OF 10)	190839

20mm S = 7 - 10.5mm Cable diameter
20mm L = 8 - 14mm Cable diameter
25mm S = 8 - 13mm Cable diameter
25mm L = 12 - 18mm Cable diameter

Weatherproof Isolators

These are grey plastic, surface mounted, enclosed switches with 'push through' type cable entries at the top, base, back and sides. The high impact thermoplastic enclosure is rated to IP65 and incorporates four loose, rubber blind grommets. The rotary switch is padlockable in three locations in either the 'on' or 'off' position.

Part No	Description	Code
MV025.3.04	Isolator 25A/7.5kW/3Pole	290787
MV040.3.04	Isolator 40A/22kW/3Pole	290795
MV025.4.04	Isolator 25A/7.5kW/4Pole	290789
MV040.4.04	Isolator 40A/22kW/4Pole	290797

Cable Cleats

Part No	Description	Code
C5	CABLE CLEAT BLACK (PACK OF 100)	190828
C6	CABLE CLEAT BLACK (PACK OF 100)	190829
C7	CABLE CLEAT BLACK (PACK OF 100)	190830

Electrical Insulating Tape

This insulating tape is made from PVC; it measures 20m in length and is 19mm wide.

Part No	Description	Code
301D	20m x 19mm Black	290731
301F	20m x 19mm Blue	290739
301B	20m x 19mm Brown	290747
301T	20m x 19mm Red	290755
301C	20m x 19mm White	290763
301H	20m x 19mm Yellow	290771
301R	20m x 19mm Green/Yellow	290779
PH.AT7	33m x 50mm Black	170488

Electrical Connector Blocks

Part No	Description	Code
5 AMP	CONNECTOR. BLOCKS (BOX OF 10)	830155
15 AMP	CONNECTOR.BLOCKS (BOX OF 10)	830153

Brass Glands for SY Cable

Part No	Description	Code
UXT20S	GLAND KIT (PACK OF 2)	190832
UXT20	GLAND KIT (PACK OF 2)	190833
UXT25	GLAND KIT (PACK OF 2)	190834

Pre Insulated Terminals

Red

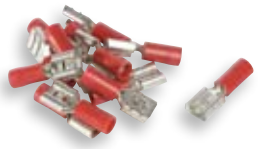
All Terminals are vinyl insulated and supplied in packs of 100.

Ring Terminals

Part No	Size	Code
37 RER	3.7mm	119601
43 RER	4.3mm	119628
53 RER	5.3mm	119636
65 RER	6.5mm	119644

Female Push-On Terminals

Part No	Size	Code
63 RFP	6.3mm	119660



Male Push-On Terminals

Part No	Size	Code
63 RMP	6.3mm	119652

Fully Insulated Push-On Terminals

Part No	Size	Code
63 RFPT	6.3mm	119679

Butt Splice

Part No	Size	Code
15 BSL	0.5-1.5mm²	119687

Blue

All Terminals are vinyl insulated and supplied in packs of 100.

Ring Terminals

Part No	Size	Code
43 BER	4.3mm	119695
53 BER	5.3mm	119709
65 BER	6.5mm	119717

Female Push-On Terminals

Part No	Size	Code
63 BFP	6.3mm	119733

Male Push-On Terminals

Part No	Size	Code
63 BMP	6.3mm	119725

Fully Insulated Push-On Terminals

Part No	Size	Code
63 BFPT	6.3mm	119741

Butt Splice

Part No	Size	Code
25 BSL	1.5-2.5mm²	119768

Yellow

All Terminals are vinyl insulated and supplied in packs of 100.

Ring Terminals

Part No	Size	Code
43 YER	4.3mm	119776
53 YER	5.3mm	119784
65 YER	6.5mm	119792
85 YER	8.5mm	119806

Female Push-On Terminals

Part No	Size	Code
63 YFP	6.3mm	119814

Butt Splice

Part No	Size	Code
6 BSL	4-6mm²	119822

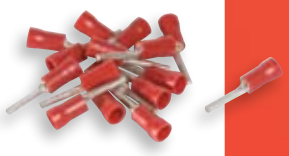
Pin and Blade Terminals (Key)

All Terminals are vinyl insulated and supplied in packs of 100.

Colour		Cable Size
Red	•	0.5 - 1.5mm²
Blue	•	1.5 - 2.5mm²
Yellow	•	4 - 6mm²

Pin Terminals

Part No	Size	Code
12RP	12mm Red	119580
12BP	12mm Blue	119582
14YP	14mm Yellow	119584



Blade Terminals

Part No	Size	Code
18RB	18mm Red	119586
18BB	18mm Blue	119588
18YB	18mm Yellow	119590

Crimping Tools

Part No	Size	Code
PK156	Crimp Kit -Preinsulated Terminals	119915
EK1016	Crimp Kit -Uninsulated Terminals	119917
441-5535	Insulated Crimp Connector Kit	831102
SP1	Service Plier to Crimp Insulated Terminals	119903
RP1	Ratchet Tool for pre-Insulated Terminals	119911

YF-602 Multimeter

Specification	Range	Code
Voltage DC	200mV, 2/20/200/1000V	164050
Voltage AC	200/750V	
Amps DC	2/20/200mA	
Ohms	200, 2/20/00K, 2/20M	
Features	Continuity buzzer Diode test Transistor (hFE)	

YF-3700 Multimeter

Specification	Range	Code
Voltage DC	400mV, 4/40/400/1000V	164049
Voltage AC	400mV, 4/40/400/750V	
Amps DC	4mA, 40/400mA, 10A	
Amps AC	4mA, 40/400mA, 10A	
Ohms	400, 4/40/400K, 4/40M	
Frequency	100Hz, 1/10/100K,1M	
Features	Continuity buzzer Bargraph	

YF-8040 Clamp Meter

Specification	Range	Code
Voltage DC	400/750V	164048
Amps AC	400A	
Ohms	40K	
Jaw Size	3.2cm	
Features	Autoranging Data hold	

YF-8030 Clamp Meter

Specification	Range	Code
Voltage DC	200/750V	164047
Voltage AC	750V	
Amps DC	200/1200A	
Amps AC	200/1200A	
Ohms	2/20/200/2000K	
Frequency	2kHz	
Continuity	Below 5ohm	
Jaw Size	5.3	
Features	Auto zero adjust Data hold	

Capacitor Tester

This indicates open and shorted capacitors, also good, bad and leaking ones via an audible signal. Also provides approximate indication of capacitance.

Part No	Description	Code
TIF660	Capacitor Tester	174572

AC650 Amp-Seeker

Multi-function, up to 600A, large display, peak/data hold function, low battery indicator. CE marked, includes probes, batteries and case.

Specification	Range	Code
Voltage DC	1V - 1000V	164045
Voltage AC	200 - 750V	
Amps AC	20 - 600A	
Ohms	200 - 20K	
Frequency	10Hz - 2KHz	
Features	Low battery indicator Data hold button Diode check/continuity alarm Peak hold button Frequency count	

Volt Stick

For safely checking the presence of AC voltage, the red indicator in the tip illuminates on detection of AC voltage.
The Volt Stick SOUND features a detection buzzer for even greater clarification and is ideal in bright daylight and in awkward out of sight areas.

Part No		Code
Volt Stick 230V		164339
Volt Stick SOUND		164341

Inverter Checker and Inverter Cable Set

The Inverter Checker can help you tell whether it is the compressor or the inverter that is faulty. It instantly analyses the compressor or inverter fault on site and fits easily within a tool box.

Part No	Description	Code
INV Check	Inverter Checker	253792
INV Link	Inverter Checker Cable Set 3 x 1m	253794

CR400ECH (Inc. 180cm Ball Valve Hoses)

Automatically recovers both liquid and vapour refrigerant without the need for manual adjustments. The unit is fitted with a 1/6hp oil-filled hermetic compressor and has the advantage of a self-purging system that clears the unit of residual refrigerant.

		Code
Refrigerants	All CFCs, HCFCs and HFCs - including R410A	169006
Dimensions	200mm x 370mm x 305mm	
Weight	12.6kg	
Capacity	Up up to 20kg/hr (vapour), 27kg/hr (liquid), 210kg/hr (push-pull)	
Voltage	220/240V/50Hz	

CR600ECH (Inc. 180cm Ball Valve Hoses)

Automatically recovers both liquid and vapour refrigerant without the need for manual adjustments. The unit is fitted with a 1/2hp oil-less compressor eliminating cross contamination. It also has a self-purging feature that clears the unit of residual refrigerant.

		Code
Refrigerants	All CFCs, HCFCs and HFCs - including R410A	169000
Dimensions	360mm x 370mm x 285mm	
Weight	13.1kg	
Capacity	Up to 32kg/hr (vapour), 81kg/hr (liquid), 315kg/hr (push-pull)	
Voltage	220/240V/50Hz	

CR700ECH (Inc. 180cm Ball Valve Hoses)

Automatically recovers both liquid and vapour refrigerant without the need for manual adjustments. The unit is fitted with a powerful 1hp oil-less compressor eliminating cross contamination. It also has a self-purging feature that clears the unit of residual refrigerant. The unit is ready for use of R410A and incorporates a 550psi HP switch, automatic LP switch and shoulder strap.

		Code
Refrigerants	All CFCs, HCFCs and HFCs	
Dimensions	360mm x 370mm x 285mm	
Weight	13.1kg	
Capacity	Up to 37kg/hr (vapour), 230kg/hr (liquid), 460kg/hr (push-pull)	
Voltage	220/240V/50Hz	169007
Voltage	110/50/60Hz	169009

EcoBuddy and Eco Warrior

This lightweight unit offers a highly efficient and easy to use solution for reclaiming refrigerant gases, which has not only become an environmental necessity but a legal requirement. Constructed in a rugged moulded case, it includes oil-less compressor, purge facility, shoulder strap, plug socket (max. 800W), tool tray and lamp.

		Code
Refrigerants	All CFCs, HCFCs and HFCs	
Dimensions	430mm x 260mm x 305mm	
Weight	12.5kg	
Capacity	Up to 30kg/hr (vapour), 80kg/hr (liquid), 320kg/hr (push-pull)	
Model	Eco Buddy 220/240V/50Hz	169020
Model	Eco Warrior 220/240V/50Hz	169022
Model	Eco Warrior 110V/50Hz	169024

Promax Minimax

The Minimax is the latest addition to the Promax range. Small, compact and fitted with a tough moulded case, it is corrosion proof and resistant to rough handling. It features an oil-less compressor capable of recovering all commonly used CFC, HCFC and HFC refrigerants including R410A, as either liquid or vapour.

		Code
Refrigerants	All CFCs, HCFCs and HFCs	
Dimensions	432mm x 280mm x 229mm	
Weight	12kg	
Capacity	Up to 17kg/hr (vapour), 50kg/hr (liquid), 240kg/hr (push-pull)	
Voltage	240V/50Hz	169010
Voltage	110V/60Hz	169012

Promax RG5410A

The key to this unit's success is the unique oil-less compressor rated to 96 Bar. Capable of switching between almost every common refrigerant including R410A. It has a compression ratio of 100:1 and therefore pulls the deepest vacuum of any recovery unit in its class. Importantly the compressor has the capability to pull liquid as well as vapour continuously, straight through.

		Code
Refrigerants	All CFCs, HCFCs and HFCs	
Dimensions	343mm x 229mm x 483mm	
Weight	14kg	
Capacity	Up to 33kg/hr (vapour), 80kg/hr (liquid), 380kg/hr (push-pull)	
Voltage	240V/50Hz	169014
Voltage	110V/60Hz	169016

Slimline Electronic Charging/Recovery Scale

This design is only 50mm thick and the entire unit weighs less than 2kg.
The loadcell will handle a wide range of cylinders, providing a simple means of weighing refrigerant into a system or cylinder.
Supplied with 9V battery and ABS carry case.
Resolution: 2g

Model No	Capacity (kg)	Code
TIF9010	55	174807

TIF9030 Compact Refrigerant Scale

This compact portable unit offers all the features and performance that you expect from a sturdy weighing platform. It is suitable for use with all refrigerants and the majority of available cylinders. It is accurate to a tolerance of +/-0.5%.
The all-in-one moulded design makes it light yet sturdy and comes complete with an over-the-shoulder carry case.

Model No	Capacity (kg)	Code
TIF9030	100	174086

CPS Compact Charging Scales

Modern service tool to replace bulky or fragile glass charging cylinders, with no need for pressure temperature calculations. Including a removable display unit with 4ft cable and built-in visual and mechanical overload protection system to ensure accuracy. Operated by two 9v alkaline batteries.
Resolution: 10g

Model No	Capacity (kg)	Code
CPS CC220	100	173888
CPS CC800A (Programmable Unit)	100	173890
CPS CCLT (Certified 'legal for trade')	50	173892

Digital Refrigerant Comparator

This is a compact digital pressure temperature chart. This pocket size device offers fast and accurate temperature references on a large easy-to-read LCD display. The automatic power down feature shuts the unit OFF five minutes after the last command to ensure extended battery life.
Pressure units: PSI, BAR and Mpa.
Temperature units: Farenheit and Celsius.
Includes instruction manual, soft carry case and battery (3V CR2032). 61 Refrigerants (inc. R22, R12, R404A, R134a, R407C, R414A, R502, R507, R600, R600A, R601, R601A, R717 and R744).

Model No		Code
MA-12834		167869

TIF9050I Programmable Charging/ Recovery Meter

This compact portable unit offers all the features and performance that you expect from a sturdy weighing platform. It is suitable for use with all refrigerants and the majority of available cylinders.
In addition it gives the benefit of a user-programmable memory allowing set amounts of refrigerant to be charged or recovered. After which the meter will stop refrigerant flow.

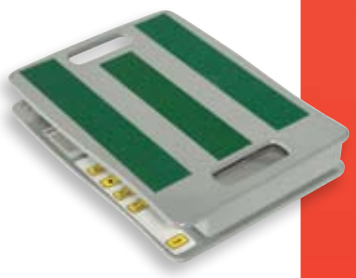
Model No	Capacity (kg)	Code
TIF9050I	100	174396

ITE WS150 High Capacity Charging Scale

Designed for both charging and recovery, this can be used with all refrigerants. Supplied in a tough ABS case, these scales can measure in either metric or imperial. This has an auto power off function. Powered by mains (dual) voltage or 9V battery which lasts up to 60 hrs. Comes complete with mains adaptor.

Model No	Capacity (kg)	Code
WS150	150	174085

Refco WS-130 Weighing Scales



This is a high quality and accurate charging scale.It is especially suitable for large refrigerant cylinders. It is built to withstand the most severe working conditions during every day use by refrigeration engineers. It is powered by standard AA alkaline batteries.
Resolution: 10g

Model No	Capacity (kg)	Code
Refco WS-130	130	169252

HRP Refrigerant Comparator

Easy-to-read slide rules for converting imperial and metric temperatures and providing saturated pressure/ temperature relationships for various refrigerants.

Model No	Refrigerants	Code
HRP C5	407C/410A/22/134a/404A/507	174132

Autoclimate Vacuum Pumps - 2 Stage

A range of high quality CE approved vacuum pumps from 1.3 to 6.5cfm.

Model No	Hose Connection (SAE)	Position	Capacity (cfm; 50Hz)	Voltage (V/Hz)	Weight (kg)	Code
2509-017	1/4 and 3/8	H and V	1.3	220/50	9.60	167854
2509-019	1/4 and 3/8	H and V	4.0	220/50	12.50	167856
2509-020	1/4 and 3/8	H and V	6.5	220/50	20.50	167857

Robinair Vacuum Pumps - 2 Stage

A range of high quality CE approved vacuum pumps from 1 to 8cfm, suitable for all requirements.

Model No	Hose Connection (SAE)	Position	Capacity (cfm; 50Hz)	Voltage (V/Hz)	Weight (kg)	Code
15401	1/4	Horiz	3.3/4	110/60-220/50	12.00	167797
15601	1/4	Horiz	5/6	110/60-220/50	12.00	167819
15121A	1/4	Horiz	8.3/10	110/60-220/50	17.24	167853

CPS Vacuum Pumps - 2 Stage

A range of CE marked two-stage, dual voltage vacuum pumps.

Model No	Hose Connection (SAE)	Position	Capacity (cfm; 50Hz)	Voltage (V/Hz)	Weight (kg)	Code
VP3D	1/4, 3/8 and 1/2	H and V	75	115/60-230/50	11.50	163216
VP6D	1/4, 3/8 and 1/3	H and V	148	115/60-230/51	12.00	163218

ITE Vaccum Pumps - 2 Stage

A range of two-stage, dual voltage vacuum pumps.

Model No	Hose Connection (SAE)	Position	Capacity (cfm; 50Hz)	Voltage (V/Hz)	Weight (kg)	Code
MK-120-DS/DV	1/4 and 3/8	H and V	132	220V/50Hz	12.00	163220
			156	110V/60Hz		
MK-180-DS/DV	1/4 and 3/8	H and V	176	220V/50Hz	14.00	163222
			212	110V/60Hz		

CPS Vacuum Gauge

An accurate and simple-to-use vacuum gauge. LED indication on VG100 or digital on VG200.

Model No	Connection	Display	Code
VG100	1/4" female	LED	163156
VG200	1/4" female	Digital	164046

TIF 9450D Digital Gauge

This unit provides accurate vacuum measurement via a four digit display.

Model No	Code
TIF9450D	174815
TIF9453 (Spare sensor)	174785
TIF9454 (Spare filter and hose)	174793

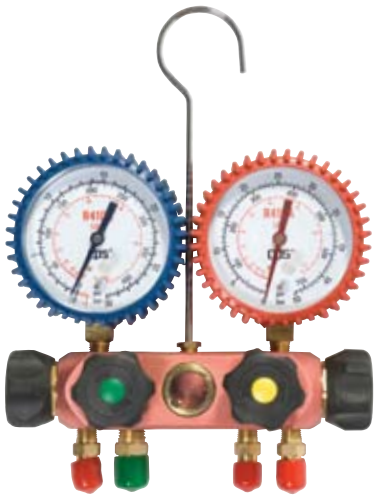
Torr Gauges

Model No	Connection	Mounting	Code
UK30199B	1/8"MPT	Direct	167878
100LAA443F	3/8" BSP	Direct	164348

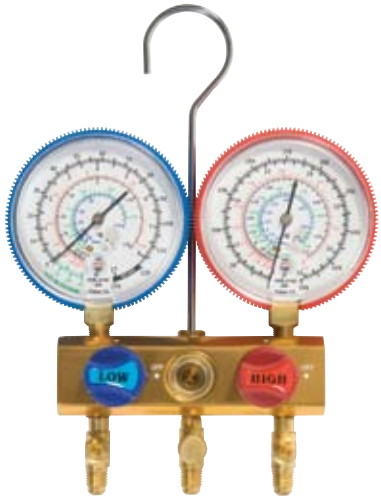
Refrigeration Service Manifolds and Gauges

- Manifolds are supplied pre-assembled with gauges fitted to the valve bar
- Valve bars are available as 2 valve or 4 valve models
- Gauges are pre-printed with a range of refrigerant saturation temperatures
- All valve bars are aluminium (except Elanmax 2506-031 which is brass)
- All 2 valve and 4 valve bars are fitted with a sight glass (except R410A models)
- 1/4" SAE connections except R410A models which have 5/16" SAE connections
- 3/8" SAE vacuum connections on all 4 valve models
- All gauges are fitted with blue and red protection boots
- Hoses are available separately in 90cm and 180cm lengths for general use. 150cm lengths for R410A and 90cm and 180cm 3/8" vacuum hoses
- To provide maximum flexibility and choice hoses should be selected separately for the required length from the table on page 40 and added to the manifold kit
- Hoses are available with or without pre-fitted ball valves
- Manifold kit carrying cases are available for all models as shown on page 40

CPS Manifold Set



Elanmax Manifold Set



Valve	Manifold and Gauge Specification			CPS		Elanmax	
Type	Gauge	Scale	Refrigerant	Part	Code	Part	Code
	(mm)			No		No	
One Valve	80	Bar/°C	R22/134a/404A/407C	MV1JL (low side)	163203	-	-
				MV1JH (high side)	163205	-	-
Two Valve	63	Bar/°C	R22/134a/404A/407C	-	-	2506-031 (1)	167545
	68	Bar/°C	R134a/404A/407C	MV2F (1)	163207	-	-
	80	Bar/°C	R22/134a/404A/407C	MV2J (2)	163209	2506-026 (1)	167547
	80	Bar/°C	R410A	MV11A (1)	163211	2506-038 (1)	167551
	80	Bar/°C	R410A	MV11E (2)	163213	-	-
	80	Bar/°C	R410A	MCO (No Sight Glass)	163214	-	-
	80	Bar/°C	R600a/R290	MV2HC (1)	163237	-	-
Four Valve	80	Bar/°C	R134a/404A/407C	MV4K (1)	163219	-	-
	80	Bar/°C	R22/134a/404A/407C	MV4J (2)	163221	2506-036 (1)	167549
	80	Bar/°C	R410A	MV12A (1)	163223	2506-039 (1)	167553
	80	Bar/°C	R410A	MV12E (2)	163225	-	-

(1) Class 1.6 Bourdon type
(2) Class 1.0 Bellows type.

Digital Manifolds

Robust and durable, these digital manifolds are more than tough enough to deal with day-to-day use. The digital display eliminates parrallax error and needle vibration.

TESTO Digital Manifolds

Built in data on 30 refrigerants with free internet updates, realtime display of superheat and subcooling. A user code prevents the instrument from being tampered with during use, ensuring information can be provided as authentic proof of system conditions.

TESTO 523

2-way valve block, one temperature probe. Kit includes a velcro surface temperature probe, calibration protocol, batteries and case.

TESTO 556/1

4-way valve block, up to 4 temperature probes (two wireless), internal memory capacity 60,000 readings downloadable to portable printer or PC. Kit includes one surface probe, calibration protocol, Easycool Software & cable, mains unit, batteries, lock and carry case.

TESTO 560/1

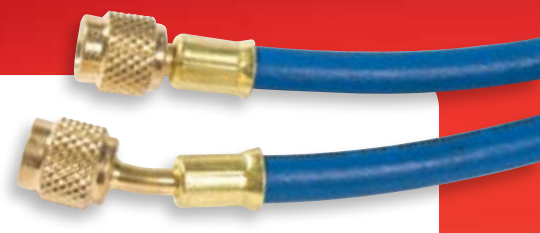
As the Testo 556/1 above, but also has integral vacuum gauge.

Model No		Code
523		168206
556/1		168210
560/1		168208

REFCO 2-Way Digital Manifold

- 50 refrigerants, incl. R410A
- High/low pressure and temperature
- Superheat and Subcool measurable with external temperature sensor
- Vacuum display
- Protected LCD screen
- Easy to read, illuminated display
- Updates reading every 3 seconds
- Automatic calibration
- Battery level indicator
- REFCO compatible spare parts
- Refrigerant updates possible
- Sturdy housing
- Auto shut-off

Part No		Code
Digimon 3 Digital Manifold		168204



Premium Hoses

1/4" SAE

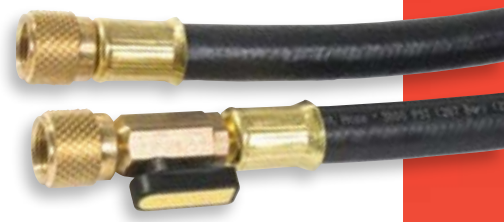
Hose Colour	Size (cm)	Code
•	90	163227
•	180	163233
•	90	163229
•	180	163235
•	90	163231
•	180	163238

5/16" SAE (R410A)

Hose Colour	Size (cm)	Code
•	150	163240
•	90	-
•	150	163242
•	90	-
•	150	163246
•	90	-

3/8" SAE (Vacuum)

Hose Colour	Size (cm)	Code
•	150	-
•	180	-
•	150	-
•	180	-
•	150	-
•	180	-



Premium Hoses with Ball Valves

1/4" SAE

Hose Colour	Size (cm)	Code
•	90	163159
•	180	163162
•	90	163158
•	180	163161
•	90	163160
•	180	163164

5/16" SAE (R410A)

Hose Colour	Size (cm)	Code
•	150	164146
•	150	164144
•	150	164142
•	150	-

3/8" SAE (Vacuum)

Hose Colour	Size (cm)	Code
•	150	-
•	150	-
•	150	-
•	150	163256

Manifold Carrying Cases

Part No	Description	Code
90011	Black plastic carrying case (CPS)	163145
0701-096	Black plastic carrying case with foam inserts (Elanmax)	167904

Ball Valves and Adaptors

Part No	Description	Connections	Code
BV45	Ball valve (male/female)	1/4" SAE (straight and 45°)	163135
BV90	Ball valve (male/female)	1/4" SAE (straight and 90°)	163136
BVM	Ball valve (male/male)	1/4" SAE (straight and straight)	163137
BV410	Ball valve R410A (male/female)	5/16" SAE(1) female to 5/16" SAE(1) male	163110
AB	Anti-blowback valve	1/4" SAE female to 1/4" SAE male	163195
AD78	R410A adaptor required to access refrigerant cylinders and vacuum pumps	5/16" SAE(1) male to 1/4" SAE female	163133
AD87	R410A adaptor required to access the R410A system charging port	1/4" SAE male to 5/16" SAE(1) female	163134
VPAS4	Anti-syphon valve for vacuum pumps with a vertical hose connection	1/4" SAE female	163165
VPAS8	Anti-syphon valve for vacuum pumps with a vertical hose connection	3/8" SAE female	163166
VPASU	Anti-syphon valve for vacuum pumps with vertical, horizontal or angled hose connection	1/4" and 3/8" SAE female and 1/2" ACME female	163167

(1) 5/16" SAE / 1/2"-20 UNF

Note: The data on this page should be allied to Manifolds and are not 'stand alone' items

Imperial Triple Headed Benders

Innovative multi-tube size design, with calibrated markings.

Part No	Tube Sizes	Code
367-FH	1/8",3/16",1/4"	162760
368-FH	1/4",5/16",3/8"	162698

Robinair Four Headed Bender

Bends four sizes of soft tubing. Calibration allows duplication of any angle. Construction combines strength and lightweight durability.

Part No	Tube Sizes	Code
14528	3/16",1/4",5/16",3/8"	167010

CPS Triple Headed Benders

368 universal tube bender with multihead and calibration markings.

Part No	Tube Sizes	Code
TB368	1/4",5/16",3/8"	163871

Imperial Gear-Type Benders

Spur-type gearing with 10:1 ratio. Portable, can be hand held, clamped in a vice or bench mounted.

Part No	Tube Sizes	Code
270-F-14	7/8"	163058
270-F-18	1-1/8"	163066

CPS Tube Benders

Hand held tube benders, each bender is capable of handling one size. Bends tube to 180°.

Part No	Tube Sizes	Code
TB04	1/4"	163865
TB05	5/16"	163866
TB06	3/8"	163867
TB08	1/2"	163868
TB10	5/8"	163869
TB12	3/4"	163870

Scols/Hercules Tube Benders

Part No	Tube Sizes	Code
Model S	-	163627
Former	3/8"	165905
Slipper	3/8"	165913
Former	1/2"	165921
Slipper	1/2"	165948
Former	5/8"	165956
Slipper	5/8"	165964

Internal Bending Springs

Part No	Tube Sizes	Code
IBS-38	3/8"	163708
IBS-58	5/8"	163724
IBS-34	3/4"	163732
IBS-78	7/8"	163759

External Bending Springs

Part No	Tube Sizes	Code
OBS-14	1/4"	163694
OBS-38	3/8"	163635
OBS-12	1/2"	163643
OBS-58	5/8"	163651
OBS-34	3/4"	163678
OBS-78	7/8"	163686

Rothenberger Multi-Bender

The industrial standard portable tube bender for copper and light grade stainless steel tube. Easy-to-use, lightweight, portable and robust. Each unit is complete with appropriate guides.

Part No	Tube Sizes	Code
9.0614	1/2",5/8",3/4",7/8"	168890
8.1015	1/2" guide	168882
9.0615	1/2",5/8" former	168904
9.0617	5/8" guide	168912
9.0616	3/4",7/8" former	168920
9.0618	3/4" guide	168939
9.0619	7/8" guide	168947

Hillmor Tube Bender

C42 bender suitable for the larger sized copper tubes 1/2" to 1-5/8". Light and portable.

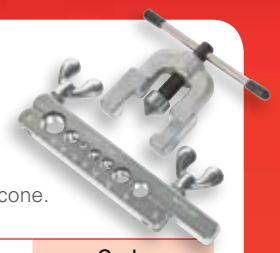
Part No	Tube Sizes	Code
630500A	CM42 bender	163406
563400	1/2" former	163414
563401	5/8" former	163449
563402	3/4" former	163465
563409	3/4" guide	163473
563403	7/8" former	163481
563404	1-1/8" former	163546
563411	1-1/8" guide	163554
563412	1-3/8" guide	163589
563406	1-5/8" former	163597
563413	1-5/8" guide	163619

Cross Bow Benders

These benders are designed for bending soft copper tube. The HB-451 is the ITE hydraulic pump version,whereas the 23022 is a Rothenberger ratchet version.

Part No	Description	Code
HB-451	1/4",5/16",3/8",1/2" 5/8",3/4,"7/8"	165113
23022	3/8" to 7/8"	168894

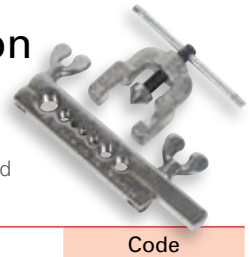
CPS Compression Flaring Tools



This flaring block is manufactured from hardened steel with hard chrome finish flaring cone.

Part No	Description	Code
FT-195	3/16",1/4",5/16" 3/8",1/2",5/8"	162878

Imperial Compression Flaring Tools



Each of the following flaring blocks is manufactured from hardened steel with hard chrome finish flaring cone.

Part No	Description	Code
HB-451	3/16",1/4",5/16",3/8" 7/16",1/2",5/8"	162795
203-FA	5/8",3/4",7/8",1-1/8"	162876

Flaring/Burnishing Tools

Known as the generating type which rolls out perfect 45° flares, then automatically burnishes the flare face Recommended for high pressure R410A systems. A larger handle provides more leverage making flaring effortless.

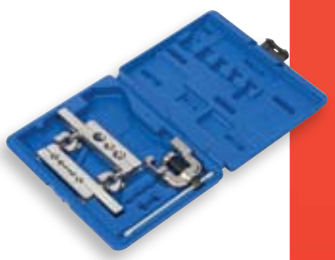
Part No	Description	Code
FT-500	3/16",1/4",5/16" 3/8",1/2",5/8"	162879

Eccentric Clutch Type Flaring Tool Kits

This tool rolls out perfect 45° flares and automatically burnishes the inside of the flare face ensuring no imperfections. In addition there is a torque limitation device which prevents overflaring. The FT800FN kit is designed specifically for high pressure R410A systems.

Part No	Description	Code
FTE-800	1/8",3/16",1/4",5/16" 3/8",1/2",5/8",3/4"	165111
FT800FN	3/16",1/4",5/16",3/8" 1/2", 5/8", 3/4"	162883

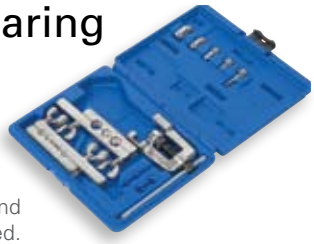
Imperial 375-FS Flaring Tool Kit



Compact kit with two bars and one yoke for flaring nine tube sizes.

Part No	Description	Code
375-FS	1/8",3/16",1/4",5/16" 3/8",7/16",1/2",5/8",3/4"	162817

Imperial 275-FS Flaring and Swaging Tool



Flares or swages with a screw type feed, it's an ideal close quarters tool. Two bars are supplied for nine tube sizes. Swivel-type swaging adaptors and spreader cone are hard chrome finished.

Part No	Description	Code
275-FS	1/8",3/16",1/4",5/16" 3/8",7/16",1/2",5/8",3/4"	163104
7885806	Spare yoke assembly	163341

Imperial 120-F Flaring/ Cutting Tool Kit

Complete with 375-FS flaring tool and TC-1000 tube cutter supplied in a plastic carrying case.

Part No	Description	Code
120-F	1/8",3/16",1/4",5/16" 3/8",7/16",1/2",5/8",3/4"	163031

ITE FTE-800 IMTRW Flaring Tool

Containing inch bar 1/8,3/16, 1/4, 5/16, 3/8, 1/2, 5/8 and 3/4
Metric bar 6, 8, 10, 12, 14, 15, 16 and 18mm, yoke.
TC-274 tube cutter1/8 to1 1/8 (4 to 28mm)
RIO-208 reamer1/8 to 1 5/8 (3 to 41mm), 127-RW ratchet wrench

Part No	Tube Sizes	Code
FTE-800 IMTRW	Flaring Tool Kit	162890

CPS FS275 Flaring and Swaging Kit

Flares or swages with a screw type feed, it's an ideal close quarters tool. Two bars are supplied for nine tube sizes. Swivel-type swaging adaptors and spreader cone are hard chrome finished.

Part No	Tube Sizes	Code
FS275	1/8",3/16",1/4",5/16" 3/8",7/16",1/2",5/8",3/4"	162881

Imperial Punch-Type Swaging Kits

Used for making tubing connections without fittings. Enlarge the tube end with the punch and solder the pipes.

Part No	Tube Sizes	Code
FS275	1/4",3/8",1/2",5/8" punches, with a pouch	162973
SP-93-03	3/16" punch	163112
SP-93-04	1/4" punch	162892
SP-93-05	5/16" punch	162906
SP-93-06	3/8" punch	162914
SP-93-08	1/2" punch	162922
SP-93-10	5/8" punch	162949
SP-93-12	3/4" punch	162957
SP-93-14	7/8" punch	162965

CPS Tube Expander and Spares

Spring loaded push rod follows smoothly eccentric end of lever, does not stick. Concentric swage ensures equal linear expansion and tube thickness are achieved.

Part No	Tube Sizes	Code
TLE6	Set: 3/8" to 1-1/8"	164040
TLE601	Expander tool only (old)	164037
	Expander tool only (New)	164039
TLH06	3/8" spare head (Old)	164031
	3/8" spare head (New)	164058
TLH08	1/2" spare head (Old)	164032
	1/2" spare head (New)	164060
TLH10	5/8" spare head (Old)	164033
	5/8" spare head (New)	164062
TLH12	3/4" spare head (Old)	164034
	3/4" spare head (New)	164064
TLH14	7/8" spare head (Old)	164035
	7/8" spare head (New)	164066
TLH18	1-1/8" spare head (Old	164036
	1-1/8" spare head (New)	164067
TLH22	1-3/8" head (Old)	164042
	1-3/8" head (New)	164068
TLH26	1-5/8" head (Old)	164044
	1-5/8" head (New)	164069

Old expander tools Black handles, New tools Red handles.

Rothenberger Tube Expander and Spares

Precision socket forming tools for the production of soldered joints in copper tube without the use of fittings. The Rocam KSO set (1.224X) comes complete with deburring tool.

Part No	Tube Sizes	Code
1.224X	1/2",5/8",7/8",1-1/8" heads, Rocam and steel case	163929
1.1000X	Rocam expander tool	163899
1.1052	3/8" head	163937
1.1053	1/2" spare head	163945
1.1054	5/8" spare head	163953
1.1055	3/4" head	163961
1.1056	7/8" spare head	163988
1.1057	1-1/8" spare head	164003
1.1058	1-3/8" head	164038
1.1059	1-5/8" head	163910
Power Torque Expander Set (6 heads) 3/8", 1/2",5/8",3/4",7/8" and 1-1/8" and steel case		163928

Special Net Price whilst stocks last

Imperial TC-1050 Tube Cutter

New super compact design, handle and feed mechanism.

Part No	Tube Sizes	Code
TC-1050	1/8" to 5/8"	162701

Imperial TC-1000 Tube Cutter

Same as 227-FA but with the tube flattening rollers.

Part No	Tube Sizes	Code
TC-1000	1/8" to 3/4"	162736

Imperial TC-1020 Tube Cutter

Includes a tube constricting facility.

Part No	Tube Sizes	Code
TC-1020	1/8" to 3/4"	162787

Imperial 312-FC Tube Cutter

Part No	Tube Sizes	Code
312-FC	1/8" to 1-5/8"	162756

Imperial 206-FB and 406-FB Tube Cutter

Ratchet feed mechanism speeds up the cutting operation. Extra wide rollers with flare cut-off groove stabilizing tubing. Handle recess contains a spare cutting wheel. Light weight aluminium body.

Part No	Tube Sizes	Code
206-FB	3/8" to 2-5/8"	162752
406-FA	2" to 4-1/8"	162825

Imperial Tube Cutter Spares

Part No	Tube Sizes	Code
26883	TC-1050CW screw	163228
74762	TC-1000/1020 screw	163236
77511	206-FB screw	163244
77507	206-FB locknut	163252
74833	406-FA wheel	163260
32633	TC-1050 wheel	163279
75015	TC-1000/1020 wheel	163287
75046	TC-1000/1020 wheel for stainless steel tube	163295
74761	206-FB wheel	163309
76637	TC-1000/1020 roller	163317
79318-01	TC-1000/1020 blade	163325
82015-01	TC-1000/1020 screw	163333

Rothenberger Minicut Tube Cutter

Fully adjustable tube for cutting in limited spaces.

Part No	Tube Sizes	Code
7.0001	3/16" to 5/8"	168106

Rothenberger No. 35 Tube Cutter

Heavy duty telescopic tube cutter.

Part No	Tube Sizes	Code
7.0027	1/4" to 1-3/8"	168211

Mastercool Hydraulic Swaging Kits

There are two kits available; a seven-head kit and a ten-head kit, both include the robust black carrying case, inner-type tube reamer, 6000psi 'Hydra-Swage' expander tool and relevant imperial sized expander heads.

Part No	Description	Code
71600	Hydra-Swage 7 Head Kit 3/8" to 1-1/8"	169963
71650	Hydra-Swage 10 Head Kit 3/8" to 2-1/8"	169965
71600-03	Expander head 3/8"	169967
71600-04	Expander head 1/2"	169969
71600-05	Expander head 5/8"	169971
71600-06	Expander head 3/4"	169973
71600-07	Expander head 7/8"	169975
71600-09	Expander head 1-1/8"	169977
71600-11	Expander head 1-3/8"	169979
71600-13	Expander head 1-5/8"	169981
71600-17	Expander head 2-1/8"	169983

Semmler Tube Expander

Used for socket forming of the larger sizes of copper tube. The tube has to be annealed prior to expanding. There are six sizes of tube covered in one model, eliminating the need for interchangeable fittings.

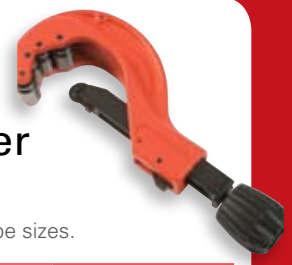
Part No	Description	Code
EXPAR	1-3/8", 1-5/8", 2-1/8" 2-5/8", 3-1/8", 4-1/8"	169985

Rothenberger Rotrac 42 Tube Cutter

Extremely smooth action tube cutter.

Part No	Tube Sizes	Code
7.0011	3/16" to 1-5/8"	168122

Rothenberger Automatic Tube Cutter



Spring loaded action for instant change in tube sizes.

Part No	Tube Sizes	Code
7.003	1/4" to 2-5/8"	168092

Rothenberger Tube Cutter Spares

Part No	Tube Sizes	Code
7.0003	7.0001 wheel	168149
7.0017	7.0027C/70030 wheel	168238
2.1652	7.0027C debur blade	168246
7.0007	7.0011 wheel	168130
7.0080M	7.0011 axle	168157

CPS TC-127 Mini Cutter

Part No	Tube Sizes	Code
TC-127	1/8" to 5/8"	163344

CPS TC-174 Mini Cutter

Part No	Tube Sizes	Code
TC-174	3/8" to 1-1/8"	163345

CPS TC274 and TC312 Tube Cutter

Part No	Tube Sizes	Code
TC-274	1/8" to 1-1/8"	163343
TC-312	1/4" to 1-5/8"	163346

CPS Tube Cutter Spares

Part No	Tube Sizes	Code
TCX7C	TC127/174 wheel	163347
TCX7S	TC127/174 screw	163348
TXC4C	TC274/312 wheel	163349
TXC4S	TC274/312 screw	163350
TXC4R	TC274/312 blade	163351
TCX4RS	TC274/312 blade screw	163352

Tube Reamers

Reams both inside and outside tube edges with three hollow ground tool steel cutters.

Part No	Tube Sizes	Code
Imperial 208-F	3/16" to 1-1/2"	163082
CPS TLRM	3/16" to 1-1/2"	163878

ITE Tube Deburrer

Part No	Tube Sizes	Code
PTR-2	Universal	163879

Imperial A-10971 Capillary Gauge

Precision engineered for gauging ID or OD of capillary tubing.

Part No	Tube Sizes	Code
A-10971	ID sizes 0.026" to 0.09" OD sizes 0.072" to 7/16"	161634

Imperial 1003 Capillary Check

For cleaning and unplugging capillary lines via high pressure oil.

Part No	Tube Sizes	Code
1003	1.9kg	161642

Imperial and CPS Capillary Cutter

Cuts capillary without collapsing the tube; cuts all sizes.

Part No	Tube Sizes	Code
CTP-1	Universal	162779
TCAP	Universal	163877

ITE 40200 Controls Pump

For quick and accurate testing of pressure controls up to 20bar (300psig) and 635mm (25") vacuum. To be used with all manifold assemblies.

Part No	Tube Sizes	Code
40200	1/4" male SAE	162614

Imperial 127-C Ratchet

Compressor valve steel forged wrench with sizes to cover almost every application.

Part No	Drive Sizes	Code
127-C	1/4" ratchet, 3/16" and 5/16" sq.drive 9/16" hex.drive	163392

Robinair 10983 Ratchet

Compressor valve steel forged wrench with sizes to cover almost every application.

Part No	Drive Sizes	Code
10983	3/8" and 5/16"sq.ratchet 1/4" and 3/16" sq.ratchet	167363

CPS TLSWS Service Wrench

Part No	Drive Sizes	Code
TWSWS	3/8" and 5/16"sq.ratchet 1/4" and 3/16" sq.ratchet	163378

Draper Adjustible Spanners

A quality wrench made from hardened chrome vanadium steel tempered and chrome plated with mirror polished jaws offset at a 15° angle.

Part No	Drive Sizes	Code
30047CP	6"	162558
30055CP	8"	162566
30063CP	10"	162574
71552	15"	162582

CPS TLSWO Offset Wrench

Part No	Drive Sizes	Code
TWSWO	3/8" and 5/16" sq. ratchet 1/4" and 3/16" sq. ratchet	163379

Piercing Pliers

Adjustable, just pierce any charging tube to immediately evacuate or charge the system via the 1/4" SAE flare access valve.

Part No	Description	Code
WatscoVG-12	1/4" to 5/8"	169668
VG-12ING	Spare needle and gasket	169684
CPS TLPP	1/4" to 5/8"	163874

Imperial 105-FF Pinch Off Tool

Temporarily closes soft copper tube so no refrigerant can pass the sealed port. Enables the line to be disconnected whilst making repairs. Also reopens tubing, rounding it back to shape.

Part No	Tube Sizes	Code
105-FF	1/4", 3/8" and 1/2"	163074

ITE MC-3900 Valve Core Removal Tool

This tool screws onto the leaking service valve and uses a unique core extractor via a double seal system and shut-off valve assembly to allow the removal and re-fitting of the valve core without system shut down or refrigerant loss.

Part No	Sizes	Code
MC-3900	1/4" SAE male	165107

ITE VG-10 Pinch Off Pliers

Locking vice grip pinch off plier.

Part No	Tube Sizes	Code
VG-10	Up to 1/2"	163872

Europa 40436 Schrader Core Remover

Handtool for Schrader removal, includes two spare cores.

Part No		Code
40436		167924

ITE T-17 Hex Wrenches

This magnetic screwdriver set combines a Phillips type screwdriver set and six 9" long hex. wrenches. The tempered steel master handle has openings for each size wrench.

Part No	Sizes	Code
TL-17	3/32",1/8",5/32"3/16",7/32",1/4"	241768

CPS TLVC2 Dual Valve Core Tool

Part No		Code
TLVC2		163889

Draper Allen Key Wallet

The key set is made from chrome vanadium steel. There are ten sizes of AF keys packed in a plastic wallet.

Part No	Sizes	Code
TKW10A	From 1/16" - 3/8"	161683

CPS TLVC4 Thread Chaser and Valve Core Tool

Part No		Code
TLVC4		163890

Rothenberger Junior Hacksaw

Part No	Drive Sizes	Code
8.0035M	Junior hacksaw	168025
8.0036	Blades (pkt 10)	168068

CPS Service Mirrors

Part No	Description	Code
TLMIR1	Circular telescopic (32mm)	163880
TLMIR2	Circular telescopic (57mm)	163881
TLMIR3	Rectangular telescopic (89x54mm)	163882
TLMIR4	Oval (89x54mm)	163883

ITE Fin Combs

Part No	Description	Code
P-8	8 and 10fpi (orange)	241822
P-9	9 and 15fpi (yellow)	241849
P-11	11 and 13fpi (blue)	241857
P-12	12 and 14fpi (green)	241865
P-17	16 and 17fpi (lime)	241881

Rothenberger Adjustable Hacksaw

Part No	Description	Code
8.0124	Adjustable hacksaw and blade	168041
7.1213	Bi-metal (12" x 24tpi)	168017

CPS Fin Straightening Tools

Part No	Description	Code
TLFC1	Aluminium fin straightening tool	163876
TLFC6	6 sided fin comb (8,9,10,12,14,15 fpi)	163873

Solenoid Valve Operating Magnets

A tool for manually operating solenoid valves during commissioning or service work where power is unavailable. Suitable for use with most makes of valve with stem diameter 15 or 18mm.

Part No	Description	Code
SVOM15	15mm	164399
SVOM18	18mm	164401

Disposible Vinyl Gloves

Premium disposible vinyl gloves. Dispenser box contains 100 of the large size.

Part No	Sizes	Code
15109	100 Dura-Touch Gloves	160150

The 12 piece Rothenberger Dry Diamond Core Drill Set

Description	Code
DRY DIAMOND CORE DRILL SET	166904
DRY DIAMOND CORE DRILL 22MM	166906
DRY DIAMOND CORE DRILL 28MM	166908
DRY DIAMOND CORE DRILL 38MM	166910
DRY DIAMOND CORE DRILL 42MM	166912
DRY DIAMOND CORE DRILL 52MM	166914
DRY DIAMOND CORE DRILL 65MM	166916
DRY DIAMOND CORE DRILL 78MM	166918
DRY DIAMOND CORE DRILL 107MM	166920
DRY DIAMOND CORE DRILL 117MM	166922

Thermogrip Gloves

Insulated glove with latex palm and fingers, ideal for engineers when handling refrigerant.

Part No	Description	Code
14G25	Thermogrip 451 Gloves	160152

Pull-A-Spout Oiler

All purpose oiler with 14" telescopic spout. Contains 4oz carbon free lubricating oil.

Part No		Code
CO-1	Oiler	160157

Comfort Goggles

Protects eyes from gas and fine dust particles. Foam surround for improved comfort, anti-scratch and non-misting lens.

Part No	Tube Sizes	Code
325400	Comfort Goggles	160151

Gallo Gun

A lightweight portable tool that's designed to blow out condensate drain lines instantly. Simply insert a CO_2 cartridge into the Gallo Gun and with a press of the trigger, 800psi of oil-free, food grade CO_2 clears the line of any blockage or restriction.

Part No	Description	Code
GG-1	Gallo Gun drain cleaning unit	169991
GGC-6	CO_2 cartridges (Pkt 6)	169993
GG-1A	Adaptor kit (90° fitting)	169995

Rothenberger Torque Wrench Kit

This torque wrench kit contains a selection of open ended spanner heads ranging from 17 mm up to 29 mm together with a wrench handle that provides a torque setting up to 75 Newtons. Note the 26mm head is not supplied with the kit, but may be required for some 1/2" flare nuts.

Tube O.D	Spanner Head (1)	Torque (2)
(")	(mm)	(Nm)
1/4	17.0	18.0
3/8	22.0	42.0
1/2	24.0	55.0
	26.0	
5/8	27.0	65.0
	29.0	

(1) Size of head depends upon the AF size of the flare nut.
(2) Based on Toshiba data.

Part No	Description	Code
R175001	Six-Piece Torque Wrench Kit	167870

Nitrogen Regulator

This is a high pressure regulator for inert gases, capable of coping with pressures up to 50 bar - ideal for strength testing R410A systems. The regulator has a 5/8" BSP male bottle connection and a 1/4" male flare hose connection. There are two gauges for bottle and system pressures respectively.

Part No	Description	Code
GA 750	High Pressure Regulator	169929
	Replacement gauges	
	Nitrogen gauge (bottle) 0-400 bar	169928
	Nitrogen gauge (system) 0-70 bar	169930

Nitrogen Test Kit

This kit has been designed specifically for use in high pressure testing applications up to 50 bar for refrigeration and air conditioning systems.
The kit can also be used for 'bleeding' nitrogen into pipe work during the brazing process.
The kit includes the well proven GA750 nitrogen regulator and is fitted with a 1.8 meter steel braided hose c/w an anti-whip cable. The hose is terminated with a hand tight 1/4" female flare swivel connection for easy use.

Description	Code
Nitrogen Test Kit	169932

F-Gas Rules

- Systems containing more than 3kg (6kg for hermetic systems) must be leak checked every 12 months
- Systems containing more than 30kg must be leak checked every 6 months
- Systems containing more than 300kg must be leak checked every 3 months and be fitted with a fixed detection system which must be checked every 12 months
- The accuracy of the leak detection system in all cases must be better than 5 grams per year

CPS

Suitable for detecting CFCs, HCFCs and HFCs. The LS-780A and LS-790B feature a 46cm flexible probe, adjustable sensitivity (10 levels; L790B and 2 levels; L-780A), audible and visual indication with a precise ion-pump.
The LS-3000B is fully automatic, detecting very small leaks via the miniature sensor, whilst still maintaining resistance to background contamination.

Model No	Description	Rating Standard	Sensitivity	Code
LS-780A	Leak detector	SAEJ1627	7g / yr	173851
LS-790B	Leak detector	SAEJ1627	7g / yr	173844
LS-3000B	Leak detector	EN14624	3g / yr	173846
LSXSF	Sensor filter tip		-	173845
LSXS	Ion-pump sensor		-	173819
LSXMK	Maintenance kit (2 x LSXS and 2 x LSXPT)		-	173878
LSXSH	Sensor housing		-	173835
LSXS3	CCD sensor assembly (LS3000)		-	173841

TIF Instruments

The TIF 8900 leak detector for hydrocarbons, alcohols, ethers, keytones and solvents.
The TIF XP-1A leak detector is designed for HFC and HCFC detection.
With audible and visual display, battery test function and carrying case.

Model No	Description	Rating Standard	Sensitivity	Code
XP-1A	Leak Detector HFC and HCFC	EN14624	3g / yr	174941
8900	Leak Detector (Combustible Gases)		5 ppm	174943
TIF8801	Sensor tip		-	174947
TIF8806B	Battery charger		-	174955

Tek-Mate

Moderately priced, hand-held leak detector for CFCs, HCFCs and HFCs. The Tek-Mate uses available intensity audible alarm and flashing LED to help pinpoint leaks. Includes sensor, batteries, spare filters and a hard plastic carry case.

Model No	Description	Rating Standard	Sensitivity	Code
705-202-G6	Tek-Mate	EN14624	2g / yr	167864
703-020-G1	Sensor		-	167866
705-600-G1	Filter kit (25off)		-	167868
717-202-G6	Compass Leak Detector	EN14624	2g / yr	167858
712-202-G21U	D-Tek Select Leak Detector	EN14624	1g / yr	167859

Leaktronic-2

Detects all HCFC, CFC and SNAP approved hydrocarbon blends, featuring long life heated sensor technology. A digital display independent of the audio alarm and sensitivity level, allows precise pinpointing of the leak source.

Model No	Description	Rating Standard	Sensitivity	Code
AC2440A	Leaktronic-2 Leak Detector	SAEJ1627	1.5g / yr	166512
AC2440AKITA	Spares kit (sensor, filters, test vial)		-	166514
AC2440FIL	Filters pack (5)		-	166516
AC2440LKB	Test Vial		-	166518
AC2440SEN	Replacement Sensor		-	166520

F-Gas Compliant Spectroline Fluorescent Leak Detection

- Approved by major compressor manufacturers and OEMs
- Effective for all refrigerants and lubricants
- For all sizes of refrigeration and A/C equipment
- Simple procedure slashes diagnostic time
- Used in millions of systems worldwide

Complete Starter Kits

Model No	Description	Code
Optimax Pro	Complete starter kit with carrying/storage case, UV LED cordless rechargable inspection lamp, smart 240v battery charger with led indicator, fluorescent enhancing glasses, fluorescent dye cleaner/remover, BIG EZ dye injector, 1 x BEZ-2cartridge of POE/Universal dye for systems containing up to 70kg of refrigerant or 23litres of oil.	179704
Optimax JR	Complete starter kit with carry/storage case, Optimax Junior UV LED cordless inspection lamp, fluorescent enhancing glasses, fluorescent dye cleaner/remover, EZ-50 dye injector, 2 x EZ-4/E POE/universal dye cartridges, each treating systems containing up to 11.3kg of refrigerant or 7.6litres of oil.	179703

Additives - BIG-EZ Cartridges

Model No	Description	Code
BEZ-2/ECS	POE/Universal cartridge treats up to 70kg of refrigerant or 23litres of oil.	179709
BEZ-4/ECS	POE/Universal cartridge treats up to 180kg of refrigerant or 61litres of oil.	179711

Additives - Traditional Glo-Stick Capsules

Model No	Description	Code
GS-101	Mineral six capsules (up to 1.3kg refrigerant or 400ml oil).	179868
GS-101/E	POE/Universal six capsules (up to 1.3kg refrigerant or 400ml oil).	179876
GS-1	Mineral six capsules (1.4-2.2kg refrigerant or 500-1500ml oil).	179892
GS-1/E	POE/Universal six capsules (1.4-2.2kg refrigerant or 500-1500ml oil).	179906
GS-2	Mineral six capsules (2.3-4.5kg refrigerant or 1600-3000ml oil).	179795
GS-2/E	POE/Universal six capsules (2.3-4.5kg refrigerant or 1600-3000ml oil).	179809
GS-3	Mineral six capsules (4.6-11.3kg refrigerant or 3100-7600ml oil).	179825
GS-3/E	POE/Universal six capsules (4.6-11.3kg refrigerant or 3100-7600ml oil).	179833

Additives - Bottled Additive for Very Large Systems

Model No	Description	Code
AR-GLO/E-P	480ml POE/Universal additive - one bottle treats 242litres of oil.	179715

Spares and Accessories

Model No	Description	Code
BLE-150CS-230M	150W, 230V bulb for BIP-150P lamp (HVLD80BZ6 kit).	179736
BLE-100/12	100W, 12V bulbs for TL-100 lamp (TLK-100BZ6/FB kit).	179745
AIGO-1201	Fluorescent dye cleaner/remover (250ml).	179783
BV-50	Bleed valve for Glo-Stick capsules.	179760
EZ-4/E	Box of six universal dye cartridges.	179726
QD-50	Quick disconnect attachment for Glo-Stick capsules.	179717
BEZ-50	BIG-EZ injector handle and cartridge fitting for TLK-100.	179719
EZ-50	EZ-Ject dye injector assembly for BLK-50 and OPK-50.	179728
EZ-25	EZ-Ject hose assembly 450mm for BLK-50 and OPK-50.	179730
UVS-40	Yellow replacement spectacles.	179721
UVG-50	Clear replacement goggles.	179723

F-Gas Compliant

HRP offers a range of Bubble-Up and Aerosol leak detectors, which are designed to be spayed onto the system components. Leaks are identified by foaming of the detector solution.

Advanced Engineering Bubble-up Leak Detector

Liquid leak detection fluid for refrigerant, air or gas systems.

Part No	Bottle Size (ml)	Code
Easyfind	500	291970
RTU Bubble-up	1000	291951

Gotec Leak Detector Spray

Spray the suspect area; a leak will be confirmed by foam at the leak source.

Part No	Bottle Size (ml)	Code
LDS	400	160490

Orapi Leak Detector

Aerosol leak detector spray with a directional jet for pin-point accuracy.

Part No	Description	Code
4952A4	Aerosol leak detector spray	160492

Amos Static Leak Detectors

HRP offers a range of fixed Leak Detection Equipment which complies with the requirements of the F-Gas Regulations. Please contact your local HRP Service Centre for application information.

Super Seal Leak Sealant

A leak sealant for refrigeration and air conditioning sysyems. Ideal for older systems where small persistant leaks cannot be identified. Works with all common refrigerants including R410a.

Part No	Description	Code
AC2944K	HVACR Comm. 5.3kw - 17.6kw	166507
AC2947K	ACR Small - up to 5.2kw	166508
AC2948K	3ph Comm. and Ind. Over 17.5kw	166509

Rothenberger Super Fire 2 Brazing Torch

Concentrated high heat, anti-flare, adjustable flame with powerful turbine flame pattern. Equipped with instant piezo ignition, the Super Fire 2 is fast & effective for all brazing applications and can be operated with either the disposable propane or Mapp gas cylinders.

Part No	Bottle Size (ml)	Code
3.5644X	Super Fire 2 torch only	166766
3.2083	High pressure propane reg.	166529
3.2201	2.5m propane hose	166804
3.1043	Stainless steel heat guard	166839
Suitable Gas Cylinders:		
	Map-Plus (453.6g)	169992
	TurboGas (Propane)	169984

Rothenberger Piezo Ignition Torch Spares

Spray the suspect area; a leak will be confirmed by foam at the leak source.

Part No	Bottle Size (ml)	Code
3.5659	Burner tube (Quickfire/Superfire 1)	166693
3.5658	Pencil flame burner tip (all)	166685

Turbo Torch

TLSTK11 fits onto standard Map-Pro (166774) or Map-Plus (169992) gas cylinders. Brazes up to 2-5/8" refrigerant copper tube.

TT300 features high triple output swirl flame nozzle. Brazes up to 3" refrigerant copper tube.

Part No	Description	Code
TLSTK11	Double Barrel Turbo Torch	169987
TLNST11	Spare double nozzle	169989
TT- 300	Triple Barrel Turbo Torch	169990
Suitable Gas Cylinders:		
	Map-Plus (453.6g)	169992

Robinair UK30200 Heat Pad

Protection for all surfaces during brazing.

Part No	Description	Code
UK30200	Heat pad 300mm x 300mm	167398

Lightweight Braze-It Kit

This kit provides an ideal solution for your brazing and soldering requirements. Designed to make life easier, the kit comprises all the equipment needed (Gas not supplied as part of kit).

Part No	Description	Code
BAN12016	Lightweight Braze-It Kit	169931

Pyrocool Flame Retardant Gel

A gel applied to protect all surfaces during brazing to dissipate heat and reduce fire risk.

Part No	Description	Code
PYC050020	Pyrocool Gel (250ml)	291952
PYCO0801	Pyrocool Gel (1ltr)	291953

Scorpion Brazing Set

This consists of a Microflame 6000 torch and a 5000 series oxygen/propane pack. The 6000 torch is ideal for precision brazing and the oxygen can be used with butane, propane or natural gas. The torch may be connected to standard industrial gas cylinders and regulators as well as the portable gas pack supplied. The 2.3 litre oxygen cylinder will provide up to 10 hours continuous use (dependant upon nozzle size) and should be refilled from standard industrial cylinders using the optional oxygen refilling hose (HRP Code 166227).

Part No	Bottle Size (ml)	Code
W166-219	Scorpion brazing set	166219
70056	6ft hoses pair	166316
5611	Carry frame	166367
5004/6	Hose nipple & nut	166251
6045	Non-return valves pair with clamps	166243
W8007	O clip pair (new torch hose)	166377
7007	O clip pair (old torch hose)	166375
W555/79	Oxy, cylinder & regulator	166359
6013	Oxy/gas nozzle 25mm	166383
6014	Oxy/gas nozzle 50mm	166391
6015	Oxy/gas nozzle 75mm	166405
6016	Oxy/gas nozzle 110mm flame	166324
6018	Oxy/gas welding 150mm flame	166340
6020	Oxy/gas welding 200mm flame	166332
W555/47	Oxygen gauge	166448
5000/400	Oxygen refill hose	166227
6055	Twin tip nozzle	166286
6066	Twin tip nozzle	166294
6088	Twin tip nozzle	166308
6044	Twin tip nozzle	166421
6000	Weldmaster & hoses	166464
Suitable Gas Cylinders:		
	TurboGas (Propane)	169984
	Butane/Propane cartridge	169998

Butane/Propane Cartridges & Adaptors

Part No	Description	Code
W5556	Butane valve for 5588& W8911 cartridge	166456
Map-Plus	Map-Plus (453.6g)	169992
OC1	Magna Oxygen	169994
PT1	TurboGas (Propane)	169984
EC2	Butane/Propane Mix (350g)	169998

Emery Cloth

Aluminium oxide, abrasive cloth works wet or dry. Thoroughly cleans copper and steel tubing.

Part No	Description	Code
SC-10	1 1/2" x 10 yards	171587

Grip-Cut Abrasive

Aluminium oxide strip epoxy bonded on synthetic nylon cloth to prevent clogging. Ideal for cleaning copper tube prior to brazing.

Part No	Description	Code
SCM-10MP	Grip-Cut Mini-strip (pkt 10)	171583
SCM-5	Grip-Cut Roll (pkt 10)	171585

Cleantex Abrasive

Alternative to steel wool for cleaning & polishing copper tube.

Part No	Description	Code
SEL307	Pads 50mm x 250mm (pkt 5)	171611

Phosphorus Brazing Alloys - Self Fluxing

Suitable for flux-free brazing of copper and high quality copper alloys in air, or in a protective atmosphere furnace. A flux will normally be required for parent materials with copper contents of less than 90%.

Description	AG % Content	Dimensions (mm)		Pack Qty	Code
		Rod dia	Rod Length		
Eutectic RB 5246	0.0	2.5	500	1kg	171914
Eutectic 180	<0.5	2.4	500	1kg	171905
Rothenberger Rolot S2	0.8	22	500	1kg	166626
Eutectic RB 2	0.8	2_	500	1kg	171915
Phosbraze 8	1.0	22	600	1kg	166618
Eutectic 1805	2.0	2.4	500	1kg	171913
Phosbraze 2	2.0	2.0	600	1kg	166634
Eutectic RB 5280	2.0	2.5	500	1kg	171916
Phosbraze 5	5.0	3.0	600	1kg	170933
Eutectic RB 5286	5.0	3	500	1kg	171917
Phosbraze 1	15.0	2.0	600	Each	170909

Silver Brazing Alloys - Cadmium-Free Grades

The higher silver and tin-containing alloys in this group approach the level of properties exhibited by the cadmium bearing grades, but lack the exceptional fluidity of the cadmium alloys.
They still offer the user the principal attributes of the silver brazing family.

Description	AG % Content	Dimensions (mm)		Pack Qty	Code
		Rod dia	Rod Length		
Silverbraze 38T	38.0	2.0	600	Each	170887
Silverbraze 38T Fluxed	38.0	2.0	500	6	170934
Eutectic 1665	40.0	2.4	500	5	171948
Eutectic 1665XFC Fluxed	40.0	2.0	500	5	171956
Silverbraze 55T	55.0	2.0	600	6	170936
Silverbraze 55T Fluxed	55.0	2.0	500	6	170935
Eutectic1020	56.0	1.5	500	5 rods	171920
Eutectic 1020XFC Fluxed	56.0	2.0	500	5	171964

Silver Brazing Alloys - Cadmium Bearing Grades

The cadmium bearing group of alloys is the lowest melting and the most free flowing of all the silver bearing categories. Health hazards presented by the emission of cadmium oxide fumes during brazing now limit their use. Cadmium bearing rods should not be used in the construction of electrical or electronic equipment.

Description	AG % Content	Dimensions (mm)		Pack Qty	Code
		Rod dia	Rod Length		
Easibraze 4	34.0	2.0	600	Each	170895
Easibraze 4	34.0	3 x 1	600	Each	170917
Easibraze 4	34.0	5 x 1	600	Each	170399
Easibraze 40	40.0	2.0	385	10	166642
Easibraze 40 Flux Coated	40.0	2.0	500	6	166669

Fluxes

Description	Pack Qty	Code
Eutectic F257/F1	250g	171972
SP1 Flux Powder	250g	170453
SP1 Flux Powder	500g	175196
LP5 Copper/Gunmetal Flux for use with Rothenburger Rolot S2	200g	166812

In recent years, there have been many changes to the legislation governing the availability of refrigerants and more major changes will be implemented in the near future. The most significant is the banning of R22 (Virgin HCFC) from 1st January 2010.

New Refrigerants

HRP leads the way in the supply of refrigerants to the UK industry, in partnership with BOC Refrigerants. HRP provides a complete range of refrigerants in a variety of containers, from 1kg cans and dumpy cylinders, to 1000kg drums. Hydrocarbon, CO_2 and Ammonia refrigerants are also available to special order.

HRP Service Centres are located throughout the UK and hold comprehensive stocks of refrigerant cylinders, plus engineers' service tools and scales.

Refrigerant Waste Recovery

Building owners, operators, landlords, auditors, leaseholders and tenants are now required by law to ensure any refrigeration plant or air conditioning systems, which contain refrigerant gas, must be properly de-gassed when the equipment is removed or scrapped.

Contractors and maintenance companies are now expected to provide an audit trail for the removal and reprocessing/destruction of these refrigerants in air conditioning split systems, heat pumps, VRF systems, roof-top units, chillers, etc. HRP has made this easy for all concerned.

HRP is a leading nationwide wholesaler and supplier of refrigeration and air conditioning products, including refrigerant and waste recovery services, operating from its Service Centres throughout the UK.

Simplifying Procedures

HRP has provided a service for refrigerant 'waste' for the last 10 years, handling unwanted refrigerant and transferring it to its partner, BOC, for processing. HRP recognises refrigeration and air conditioning engineers do not like regulations, detest form filling, and have some fear, and possibly ignorance, of the legislation which now covers this subject. No one wants a visit from the 'environment police', or a hefty fine from the Environment Agency. No company director wants to be exposed for noncompliance.

To make things easy, HRP has produced a Consignment Form, in association with the Environment Agency, with much of the required information and coding already preprinted, allowing the contractor to follow several easy steps to comply with the Regulations.

HRP – Waste Refrigerant Processing

HRP provides the following services from its 16 locations throughout the UK:

- Refrigerant Recovery Cylinders
- Delivery and Collection service for registered companies
- Consignment Forms for small and large cylinders, part completed, and simple to use
- Forms include Waste Codes and UN Identification, plus Exemption References
- Full responsibilities of the 'Transfer Station'
- Receiving cylinders containing waste refrigerant
- Documentation for onward transfer and transport
- Arrangements with BOC for analysis of waste refrigerants
- Certificates for confirmation of re-processing or destruction

Engineers and Contractors Responsibilities

The 'waste producer', i.e. the aircon or refrigeration contractor, must have the Minimum Qualification for engineers to remove refrigerant - City & Guilds 2078, or CITB equivalent. Training for these qualifications, and for F-Gas Inspection Training, is available at the new HRP Technical Centre and Training Facility, sponsored by Mitsubishi Heavy Industries Air Conditioning, which is located in Slough. HRP also supplies recovery equipment, gauge sets, protective gloves & goggles, and many other tools and timesaving devices.

HRP – Peace of Mind

Regulations, forms, certificates, and inspectors, can be irritating and time consuming to deal with. HRP provides a comprehensive service to the industry, and has greatly simplified the documentation requirement for waste producers.

HRP is the leading UK wholesale supplier of Coolers, Condensing Units, Compressor Sets, Cellar Coolers and Controls, from a wide range of top brand manufacturers.

- **Rivacold**
- **Kobol**
- **Danfoss**
- **L'Unite Hermetique**
- **Copeland**
- **Friga-Bohn**
- **Aspera**
- **Profroid**
- **Marstair**
- **Qualitair**

HRP has produced a quick reference Refrigeration System Guide, which has details of all systems from low temperature cold rooms to food preparation and cellar coolers. Please contact your HRP Service Centre to request a copy.

Dressed condensing units

HRP has provided engineering support to contractors for many years, from a well-equipped workshop at Rougham, staffed by skilled and experienced engineers.

This is a continuous requirement for dressed condensing units, workshop fitted with controls and accessories to client specifications. Many installers have come to appreciate the benefits of this service.

- All added components are fitted and tested under clean and controlled conditions
- Material and labour costs are lower compared to fitting on site
- Skilled labour can be deployed elsewhere on the site
- Time on site is minimised

The workshop has experience of all types of condensing unit: hermetic and semi-hermetic, scroll and reciprocating. As well as those listed in this brochure, units from other manufacturers can be similarly equipped ready for delivery to site.

Bespoke modifications

A wide range of modifications to refrigeration and air conditioning equipment is undertaken in the HRP workshops.

This service is particularly valuable when end-user specifications require change to a large number of units. Workshop modification ensures a consistency of workmanship and speed of turnaround which would be difficult to achieve on site.

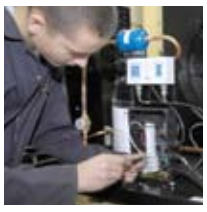
Dressed Options workshop fitted, include:

Standard Options:

- LP Switch (Auto)
- HP Switch (Manual)
- HP/LP Switch (Man/Auto)
- HP/LP Switch (Auto/Auto)
- Condenser Fan Speed Control for low ambient operation (pressure actuated)
- Condenser Fan Switch pressure actuated
- Drier and Sight Glass liquid line
- Vibration Eliminator - suction to compressor
- Oil Separator
- Oil Separator with hand shut-off and Sight Glass
- Crankcase Heater

Other Options:

- Starter Panel
- Hot-gas/liquid injection capacity control
- Unloaded start (semi-hermetic)
- Capacity Control cylinder unloading (semi-hermetic)
- Unit Housing - weatherproof housings



MITSUBISHI HEAVY INDUSTRIES, LTD.

AIR CONDITIONING

HRP and 3D Air Sales Ltd are the UK Distributors of the extensive range of split systems, Multi Systems, and VRF Systems manufactured by Mitsubishi Heavy Industries.

These top brand high performance air conditioning/heat pump systems provide installers with the reassurance of quality and reliability, plus the simplicity of easy installation and commissioning.

The MHI range consists of:

SRK-HG	Low cost (non-Inverter) heat pump systems
SRK-Z	Inverter High Performance split systems
SCM	Multi-systems for residential and light commercial applications < 8kW
FD Series	Cassette, Ceiling, Ducted, Wall, Floor systems for commercial applications
FD Series	Multi Systems for open plan areas, shops, offices, gyms, hotels and retail sites
Mini-KX	VRF compact systems <16kW
KX & KXR	VRF 2-pipe & 3-pipe with energy recovery for larger buildings < 136kW
SAF	Heat Recovery Ventilation Units

3D Air Sales Ltd provides dedicated technical support to installers, contractors and design consultants, covering selection of equipment, application, design, plus help and advice on cost effective solutions for commercial buildings.

The unique "e-solution" design software can produce detailed pipework schematic drawings, electrical and control diagrams, and equipment schedules for all system components and units.

3D has specialist engineers providing after sales support, commissioning assistance, and troubleshooting.

Training courses are held frequently at the Mitsubishi Technical Centre at Slough, and allow engineers hands-on practical training on all split systems and VRF, application, installation, commissioning, and service. Training is also available by arrangement at other locations throughout the UK.

Mitsubishi Technical Centre - Tel: 01753 495720

SAMSUNG air conditioning centre

Samsung is widely recognised and a world leader and innovator of communications equipment, IT, consumer products, and of air conditioning and heat pump systems.

The Samsung air conditioning product design, styling and controls are imaginative and unique, offering many features and benefits for residential users, as well as for hotels, office buildings, leisure, and retail.

Included in the Samsung range are ultra-slim ducted and cassette units, mirror fronted indoor units, and an extensive range of conventional systems with high efficiency cooling and heating performance. At the upper end is the range of innovative DVM variable capacity multi-systems.

The SAMSUNG range includes:

NEO FORTE	Wall Inverter split systems
VIVACE	Wall Inverter Mirror style systems
FJM	Free Joint Multi Inverter systems < 8kW
CAC	Cassette, Slim Cassette, Ceiling, Ducted and Floor/Ceiling systems
Mini-DVM	Compact Digital Variable Multi systems < 16kW
DVM	Digital Variable Multi systems for larger buildings < 156kW

HRP in partnership with Samsung provides nationwide distribution of the innovative and stylish Samsung range. Samsung split systems are in stock at HRP Service Centres, providing the installer with instant access to cost effective packaged solutions, including all installation materials. Training is also provided at HRP Service Centres - please contact your local Sales Office for details.

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Better by degrees